

# THE ARCHITECTS' JOURNAL



## standard

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every issue does not necessarily contain all these contents, but they are the regular features which continually recur

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No. 3362]

[Vol. 130

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Registered as a Newspaper.

★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to I one week, I to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. L. Stevenson, College of Art, Hope Street, Liverpool 1.	Royal 1826
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5533
ABT	Association of Building Technicians. 1, Ashley Place, S.W.1.	Victoria 0447-8
ACGB	Arts Council of Great Britain. 4, St. James's Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Mayfair 7501/8
ARCUK	Architects' Registration Council. 68, Portland Place, W.1.	Langham 5861
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Langham 5721
BC	Building Centre, 26, Store Street, Tottenham Court Road, W.C.1.	Museum 5400
BCC	British Colour Council. 13, Portman Square, W.1.	Welbeck 4185
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.	Ealing 9621
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham.	Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10.	Fremantle 8494
BE	Building Exhibition. 11, Manchester Square, W.1.	Hunter 1951
BEDA	British Electrical Development Association, 2, Savoy Hill, W.C.2.	Temple Bar 9434
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.	Glasgow Central 2891
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Chancery 7772
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Langham 2785
BOT	Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
BRB	Building Research Station. Bucknalls Lane, Watford.	Garston 4040
BSA	Building Societies Association. 14, Park Street, W.1.	Mayfair 0515
BSI	British Standards Institution. British Standards House, 2, Park St., W.1.	Mayfair 9000
CABAS	City and Borough Architects Society. C/o S. A. G. Cook, A.R.I.B.A., Borough Architect and Director of Housing, Town Hall, High Holborn, W.C.1.	Holborn 3411
CAS	County Architects' Society. C/o S. Vincent Goodman, F.R.I.B.A., Shire Hall, Bedford.	Bedford 67444
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Belgravia 6661
CDA	Copper Development Association. 55, South Audley Street, W.1.	Grosvenor 8811
COID	Council of Industrial Design. 28, Haymarket, S.W.1.	Trafalgar 8000
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.1.	Sloane 4280
CUC	Coal Utilization Council. 3, Upper Belgrave Street, S.W.1.	Sloane 9116
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Whitehall 0540
EJMA	English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1.	Regent 4448
EPNS	English Place-Name Society. 7, Selwyn Gardens, Cambridge.	
FAS	Faculty of Architects and Surveyors. 68, Gloucester Place, W.1.	Welbeck 9966
FASS	Federation of Associations of Specialists and Sub-Contractors, 14, Bryanston Street, W.1.	Welbeck 1781
FBBDO	Fibre Building Board Development Organization Ltd. (Fidor), Stafford House, Norfolk Street, W.C.2.	Covent Garden 3008
FBI	Federation of British Industries. 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1.	Regent 0221
FCMI	Federation of Coated Macadam Industries. 37, Chester Square, S.W.1.	Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd. Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District. Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders. 33, John Street, W.C.1. Tel.: Chancery 7583 (6 lines)	
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Langham 4341
GPDA	Gypsum Plasterboard Development Association. 11, Ironmonger Lane, E.C.2.	Monarch 8888
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group. 2, Chester Street, S.W.1.	Belgravia 3081
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 288
IAAS	Incorporated Association of Architects and Surveyors. 29, Belgrave Square, S.W.1.	Belgravia 3755
ICA	Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers. 1, Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, Victoria Embankment, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215
IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1.	Sloane 8266
IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square	Sloane 1601/3158
IIBDID	Incorporated Institute of British Decorators and Interior Designers. 100, Park Street, Grosvenor Square, W.1.	Mayfair 7086

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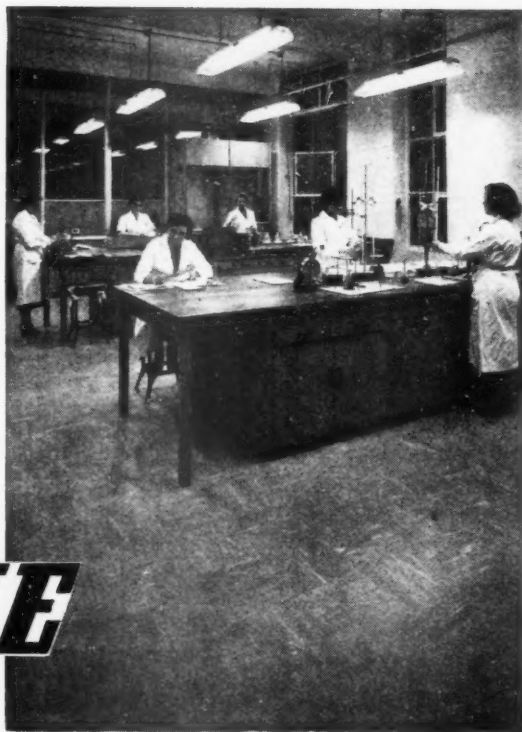
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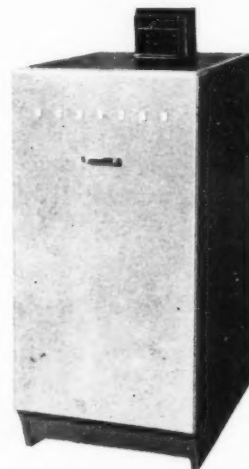
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bridges and reservoirs and housing estates and hospitals, and laying railway sidings. Just about everything you can think of, sir. I expect they get so much to do because they're such jolly quick workers. Don't you, sir?"

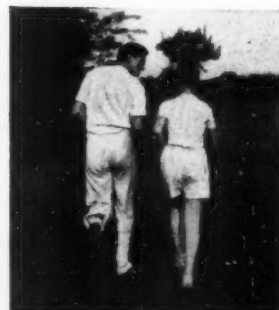
"If you'd use a little less breath for talking and a little more for running, Tomlinson, we might possibly get back to school before the rest of the hounds finish up the crumpets."

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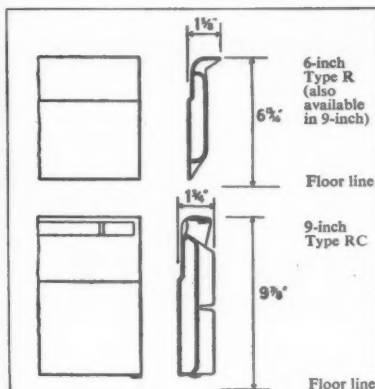
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THE need to introduce—whether for practical or for aesthetic reasons—windows that reach generously from floor to ceiling and wall to wall, might appear to present a problem: the problem of installing an efficient heating system economically without taking up valuable space or marring an otherwise uncluttered design.

There is one system that is designed to answer problems of this kind. It is a system of skirting heating developed by Crane Ltd. Crane Skirting Heating is so unobtrusive and its application so flexible that a great deal of freedom of arrangement is attained.



Manual (No. 423) on Crane Skirting Heating may be had on application to

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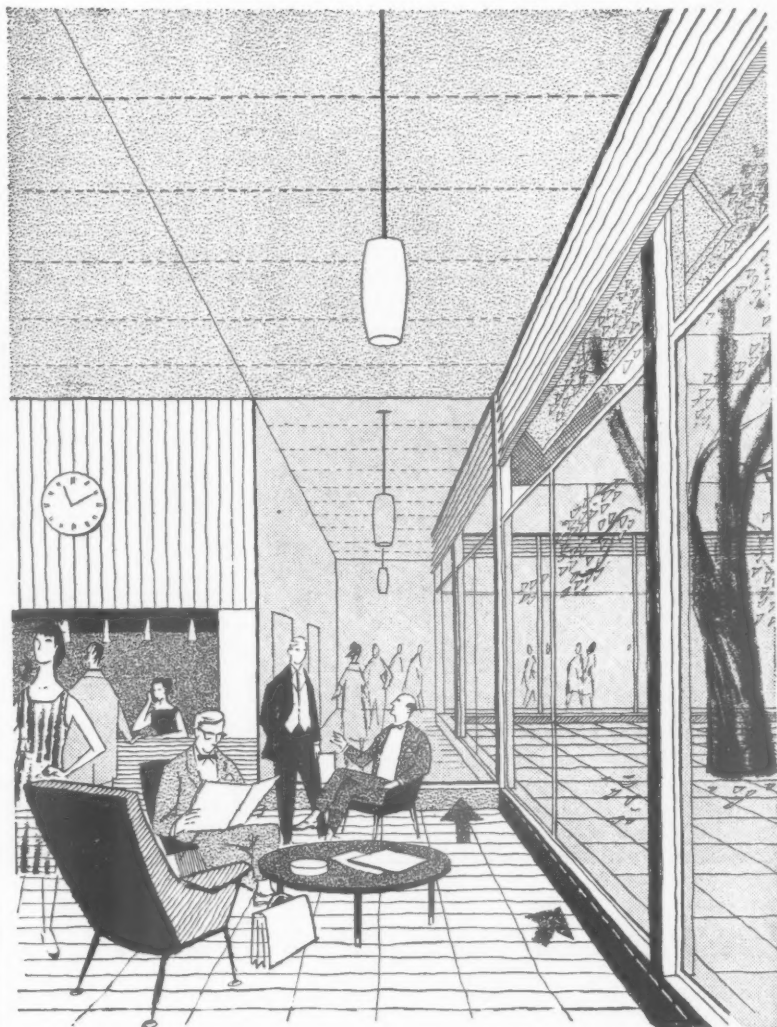
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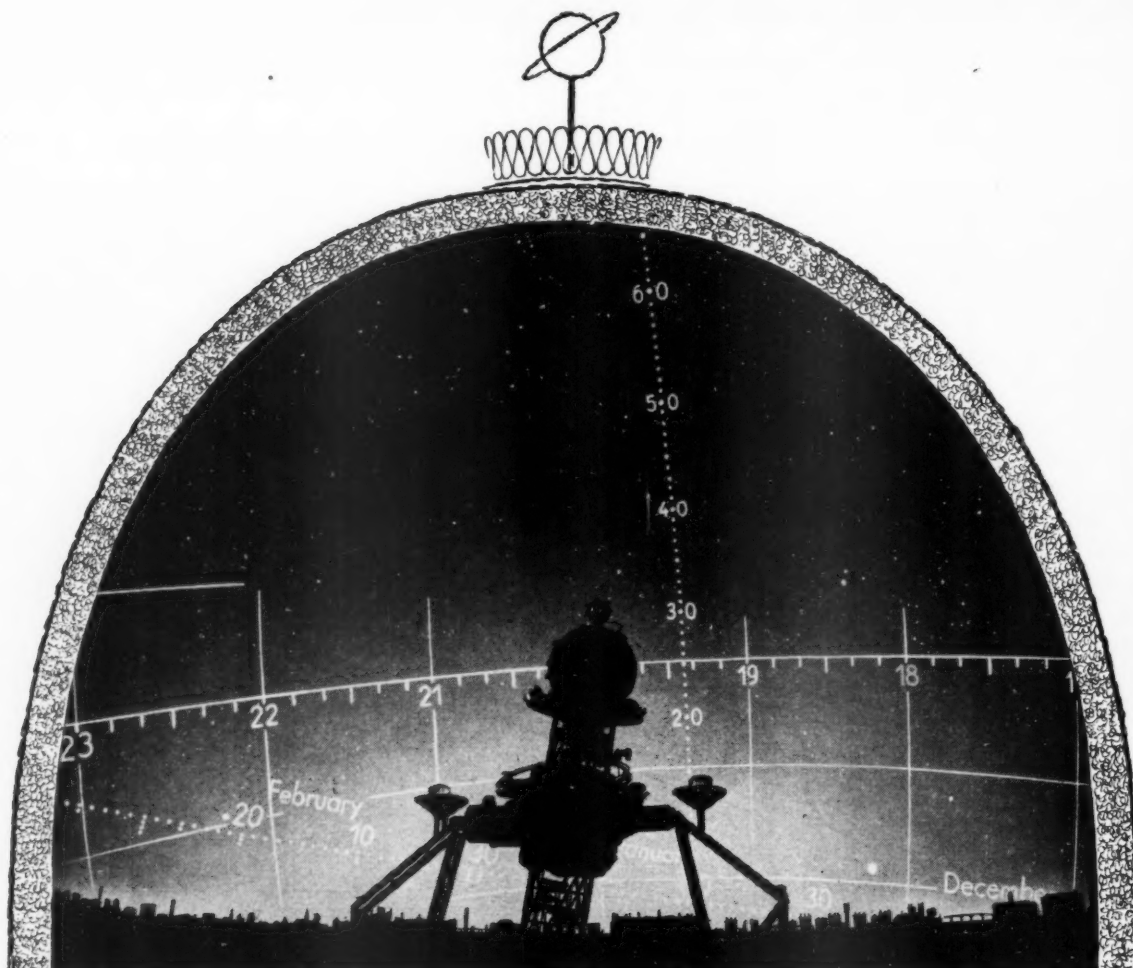


This heating system takes the form of panels which are used in place of the normal skirting. They avoid local 'hot spots' and distribute the warmth evenly where it is needed, without taking valuable floor or wall space. There are two types. Type R, which is purely radiant and made in panels 6-inches and 9-inches high; and Type RC (radiant-convector) in the 9-inch size only (used in the example illustrated and indicated by arrows). All panels are in 2-ft. and 1-ft. lengths and are made of cast iron, which gives them great resistance to accidental damage. The operations of calculating heat requirements and designing the pipework are in principle no different from those for conventional radiator heating systems.

In all cases where the architect needs greater freedom of expression than conventional heating systems allow him, and at the same time has to pay due consideration to costs, the answer is, undoubtedly,

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## The Planetarium chose ROCKSIL for Sound Reasons

The designers of the London Planetarium had an 'interplanetary' acoustical insulation problem on their hands, in the building of the 80 ft. diameter dome on which star images are projected.

The illusion of looking up into the night sky depends on complete silence inside the auditorium and would be destroyed by the intrusion of the traffic noise from nearby main roads.

To combat this they chose Rocksil rock wool for sound insulation. Immediately beneath the outer dome of copper is a thick quilt of Rocksil. Next comes a three-inch thick concrete dome separated from another by three one-inch layers of Rocksil Building Mat. Below the second concrete dome is a four-inch thick Rocksil Acoustic Blanket suspended on stainless steel wires. Four feet away from this is the perforated aluminium dome which forms the artificial night sky.

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$1\frac{3}{8} \times 1\frac{3}{8}$	$2\frac{1}{2} \times 2\frac{1}{2}$	$2\frac{1}{2} \times 1\frac{3}{8}$	$3\frac{5}{8} \times 1\frac{7}{8}$
$1\frac{7}{8} \times 1\frac{7}{8}$	$2\frac{3}{4} \times 2\frac{3}{4}$	$2\frac{3}{4} \times 1$	$4 \times 1\frac{5}{8}$
$2\frac{1}{8} \times 2\frac{1}{8}$	$3\frac{5}{8} \times 3\frac{5}{8}$	$3\frac{1}{8} \times 1\frac{5}{8}$	$4\frac{3}{4} \times 2\frac{3}{8}$
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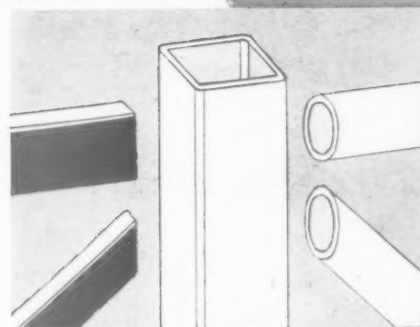
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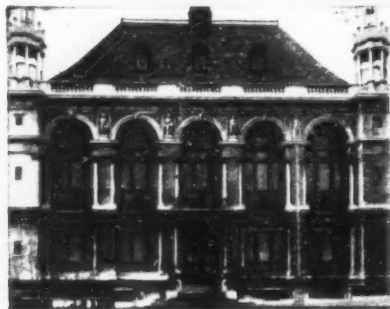
Nuffield Trust Hostel—Regents Park. Architect Eric S. Brown B.Sc., F.R.I.C.S.



Key Glass Works—Harlow, Essex. Architect Eric S. Brown B.Sc., F.R.I.C.S.



City of London Boys' School—Blackfriars.



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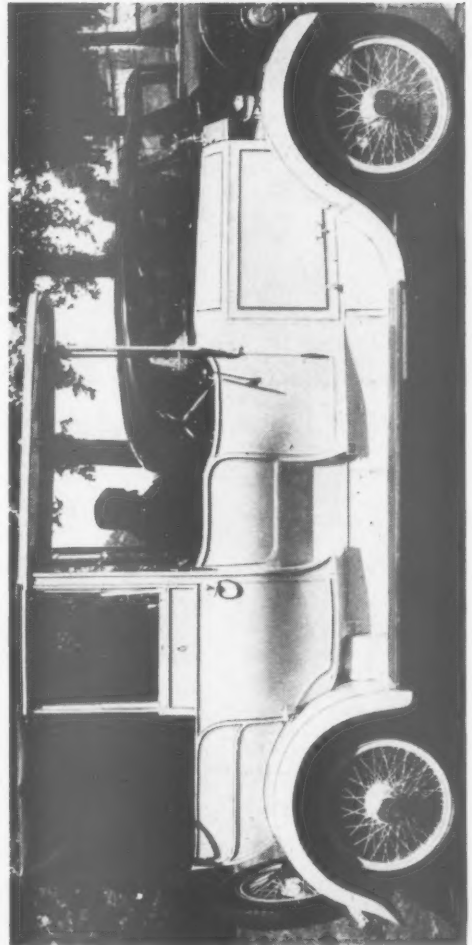




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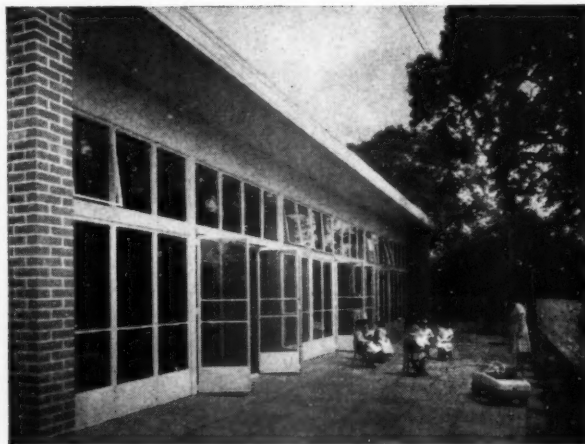
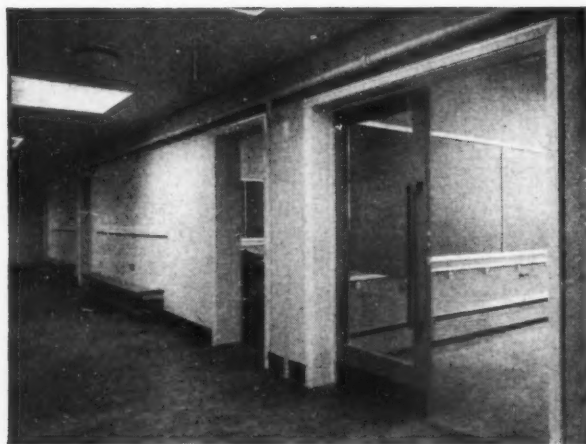
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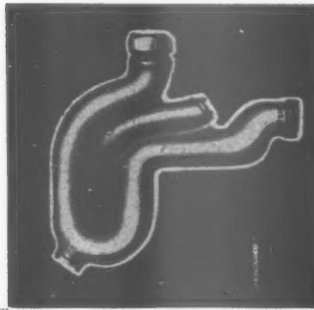
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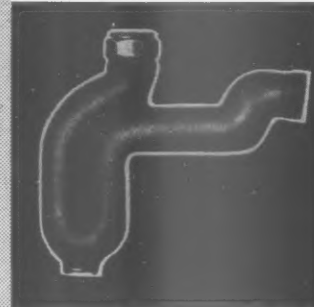
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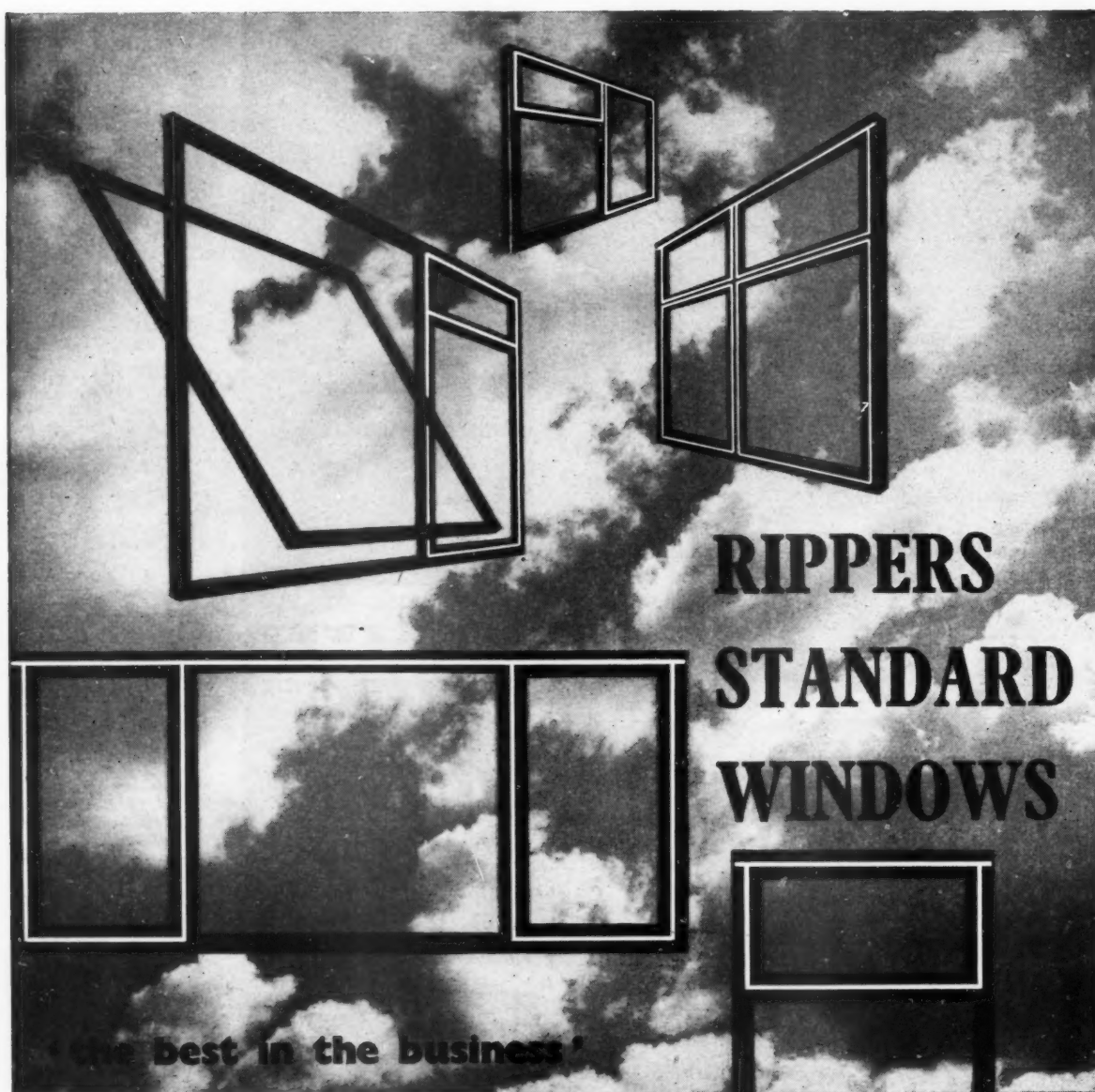
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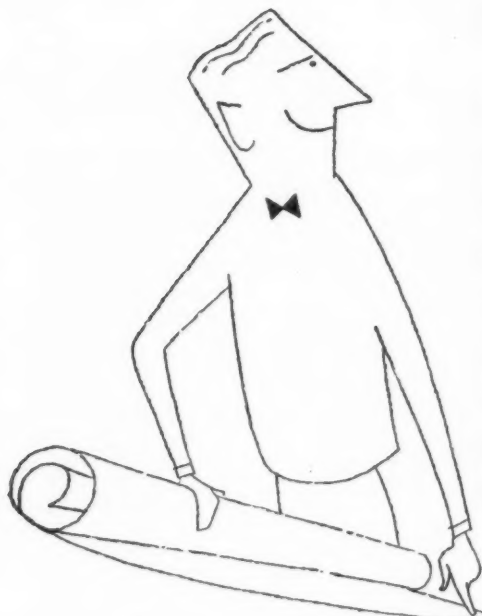
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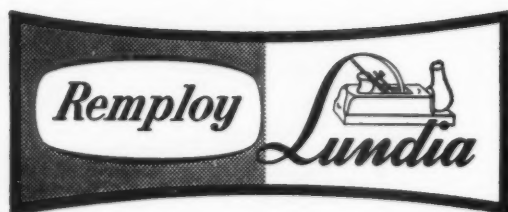
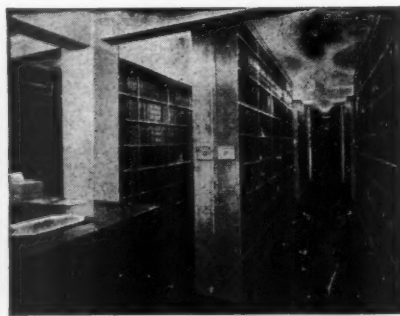


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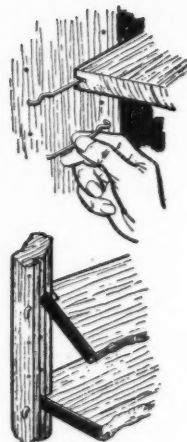
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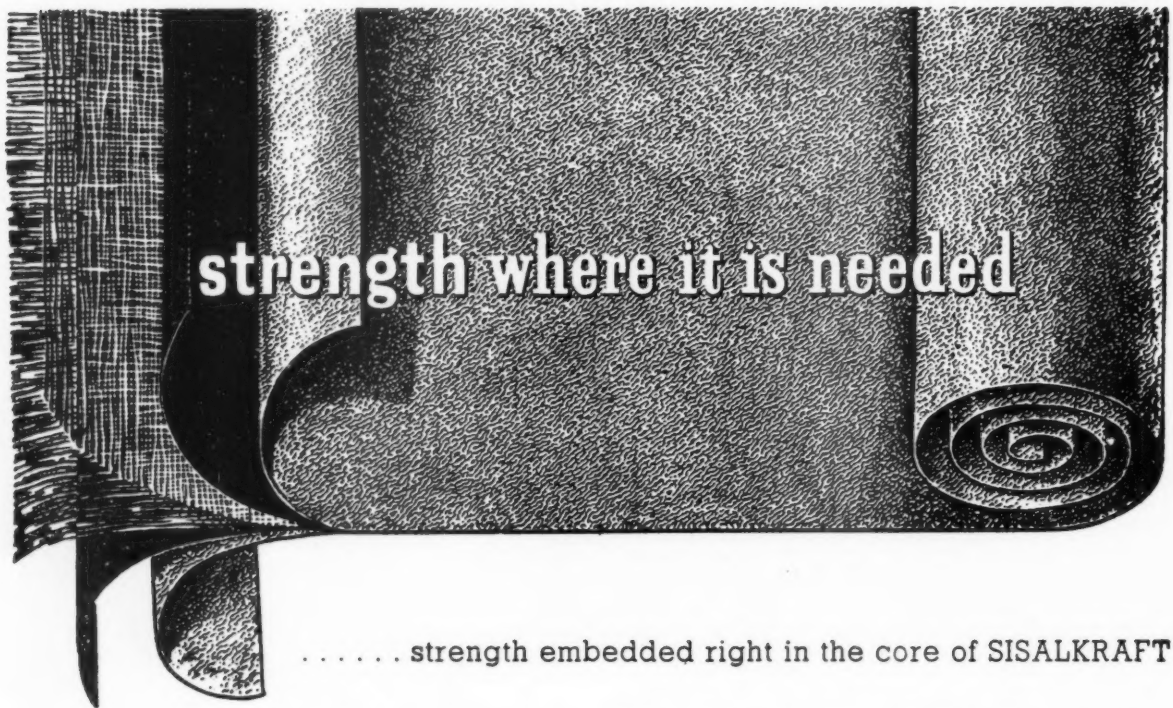
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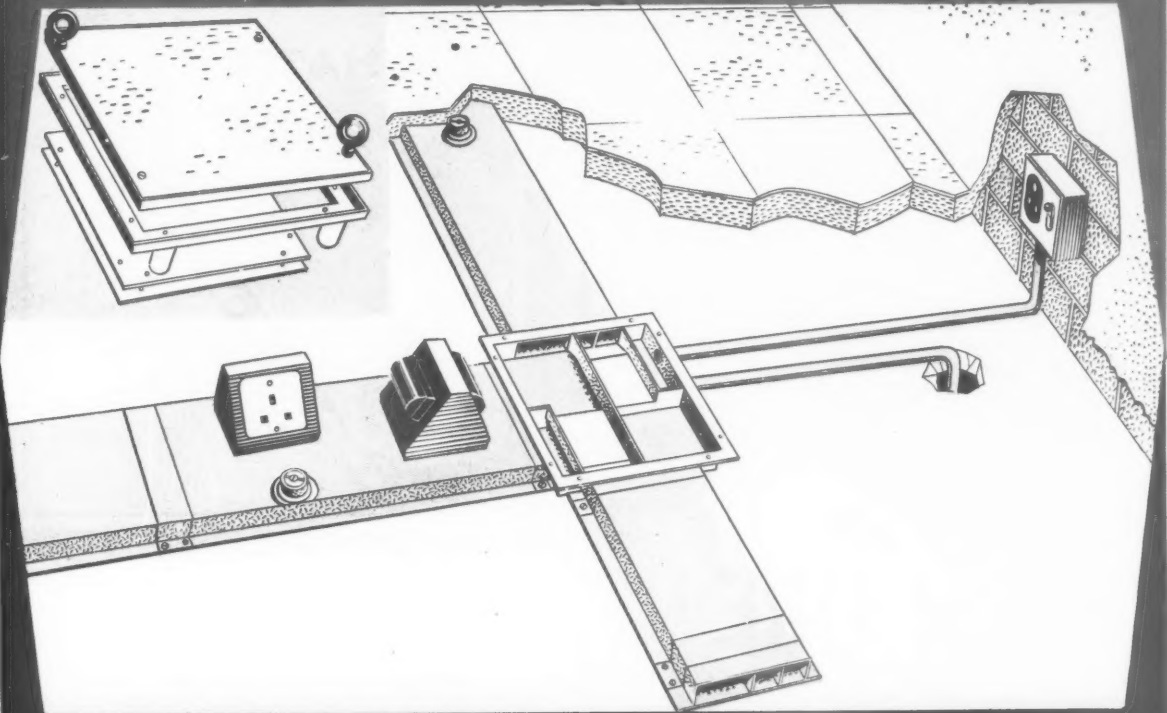
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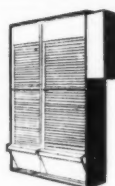
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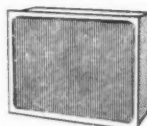
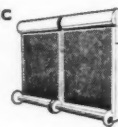


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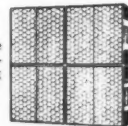


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### **HIGH/LOW/OFF OPERATION**

For capacities above 10 gallons per hour using 220 secs and 950 secs oil. Gives clean combustion and 13% CO<sub>2</sub> at variable firing loads. Incorporates one small and one large air register, each with its own atomiser. On low load only the small burner is alight, at high load both are working at optimum efficiency. Large burner has tip shut off, arranged for hot oil circulation to start and self cooling on shut down.

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### **ON/OFF OPERATION**

Generally similar to type F burner, but designed for use with 40 secs oil.

## **Type M Burner**

### **FOR HORIZONTAL SHELL BOILERS**

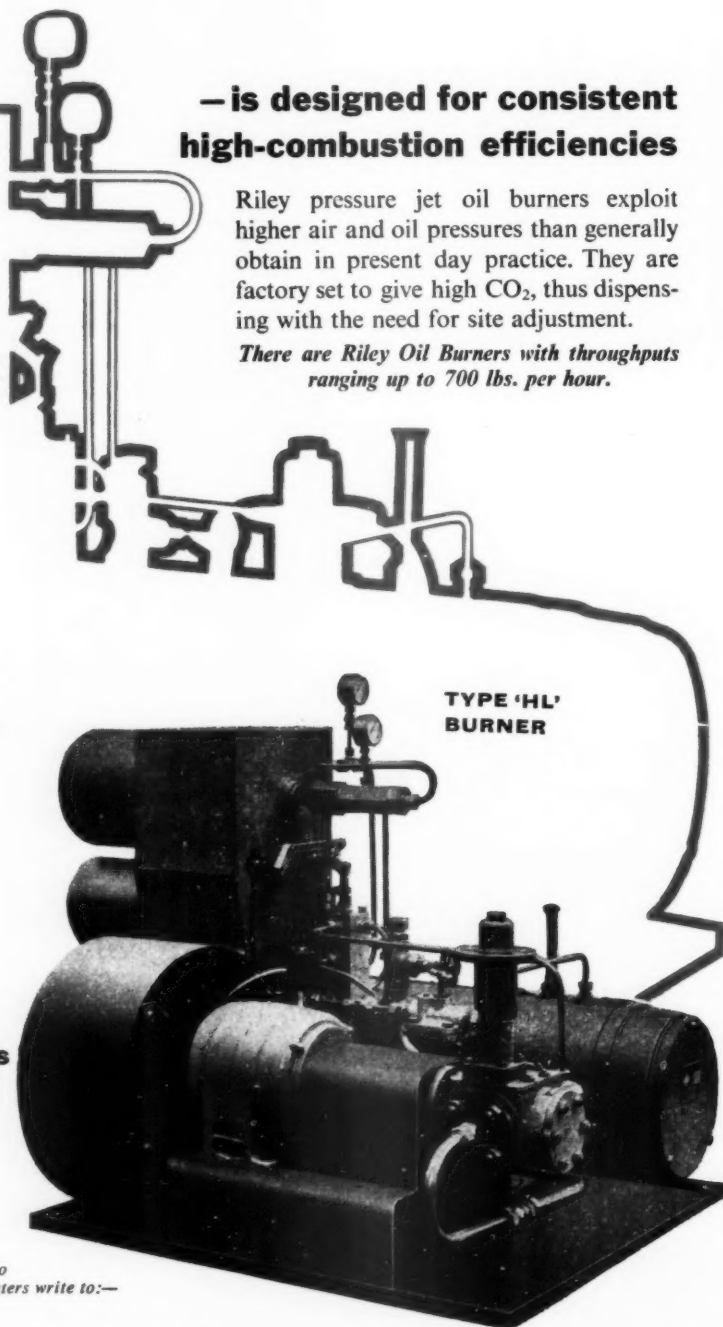
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*Greater scope for the*  
**PARKRAY 2**  
*New version has back flue outlet and back tappings*

*The free-standing Parkray 2 chosen for New Town development at Basildon, Corby, Crawley, Harlow, Hatfield and Hemel Hempstead.*

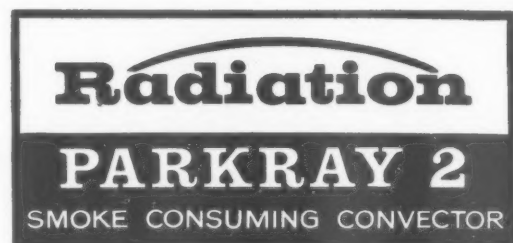
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*Parkray 2 with back flue outlet fitted in brick surround, one of several designs by Claygate Fireplaces Limited.*



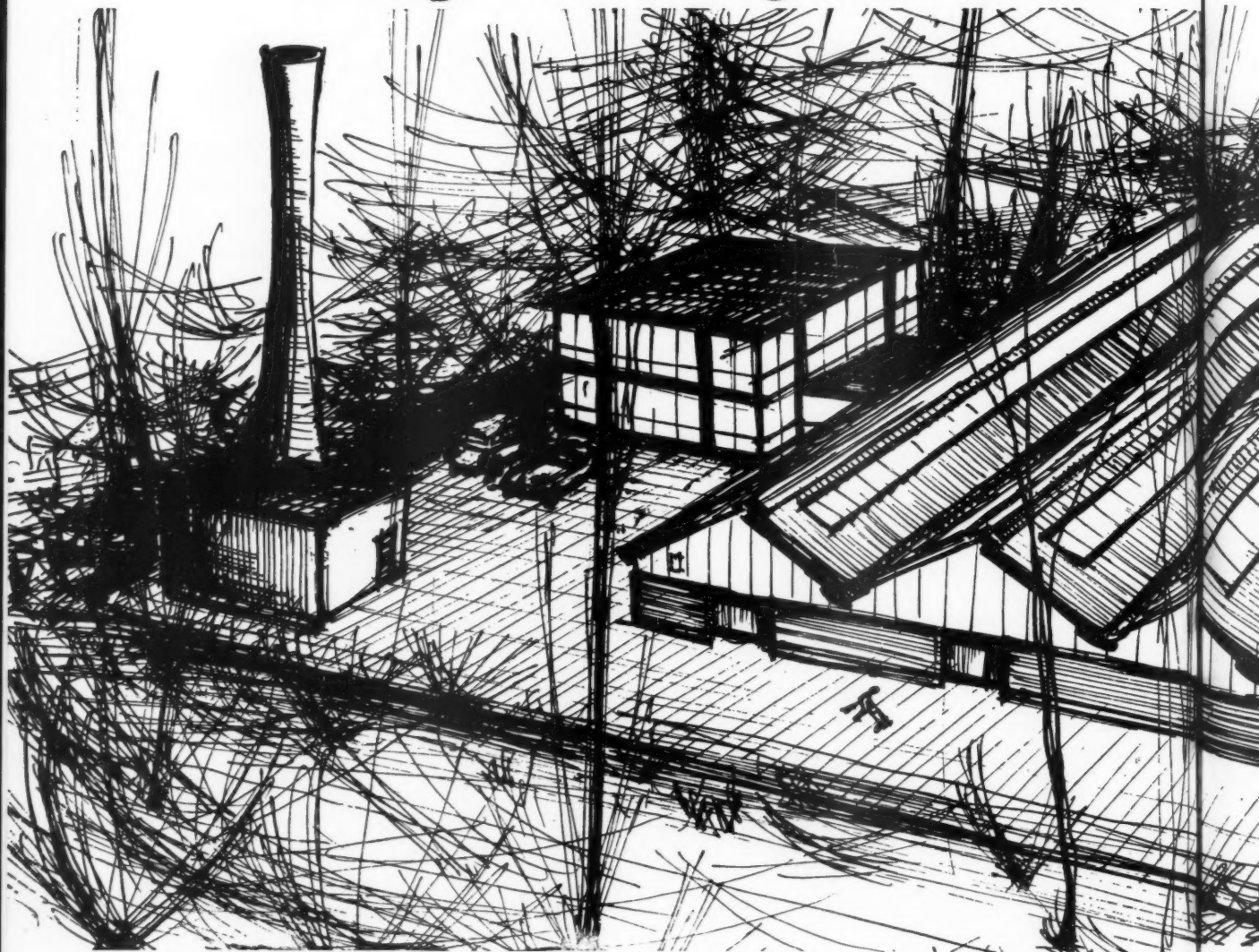
*Technical Information Sheet available from :*

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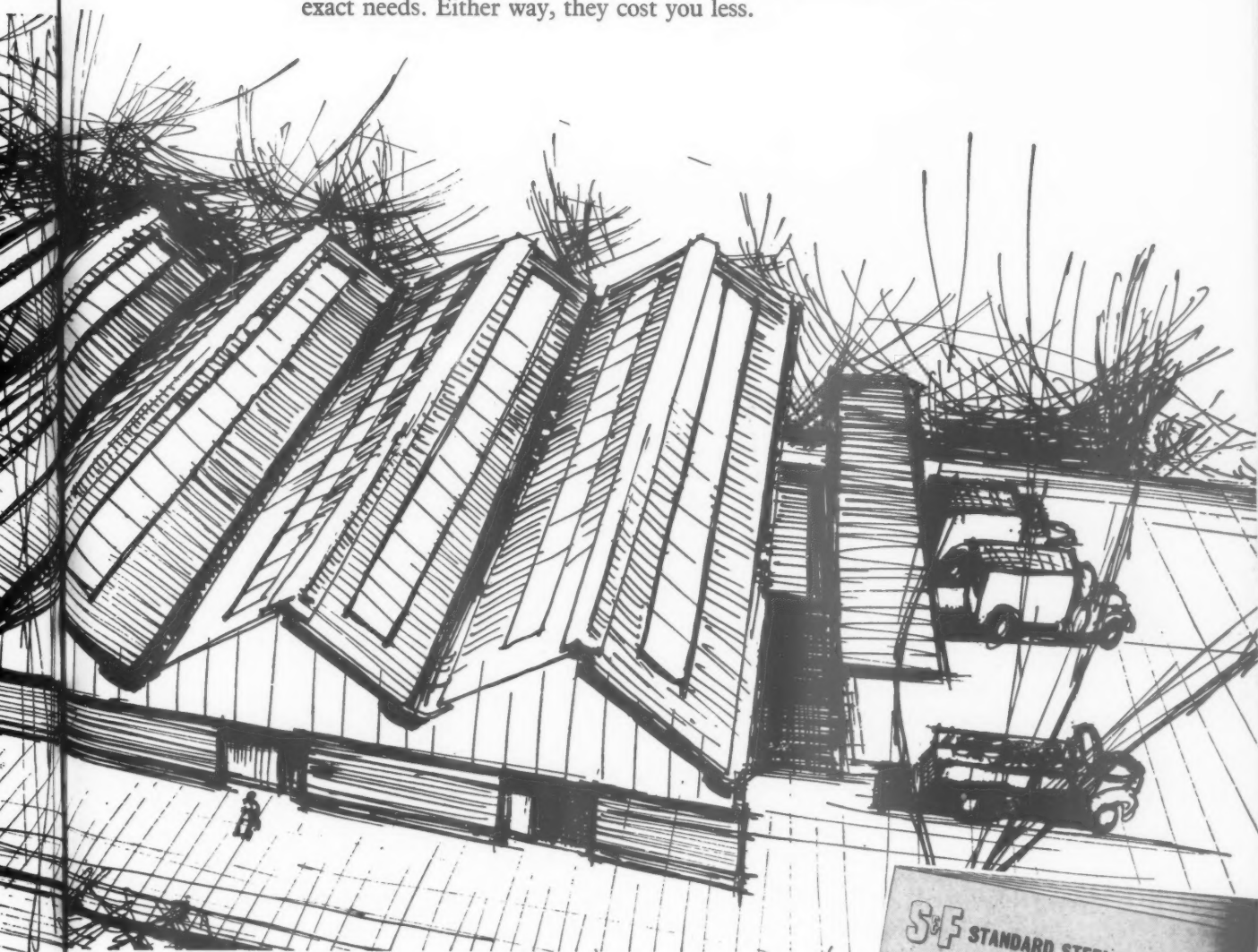
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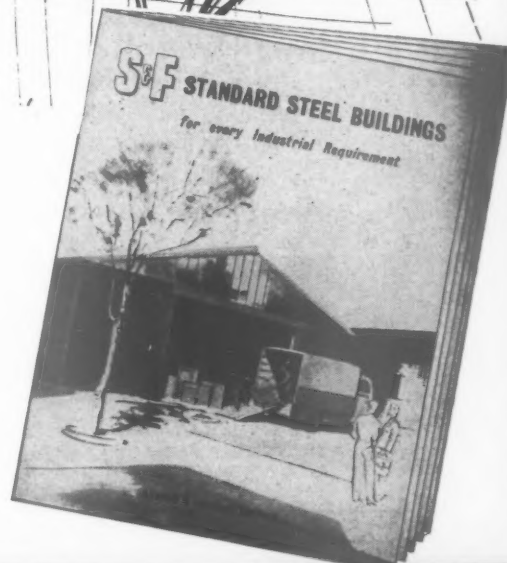
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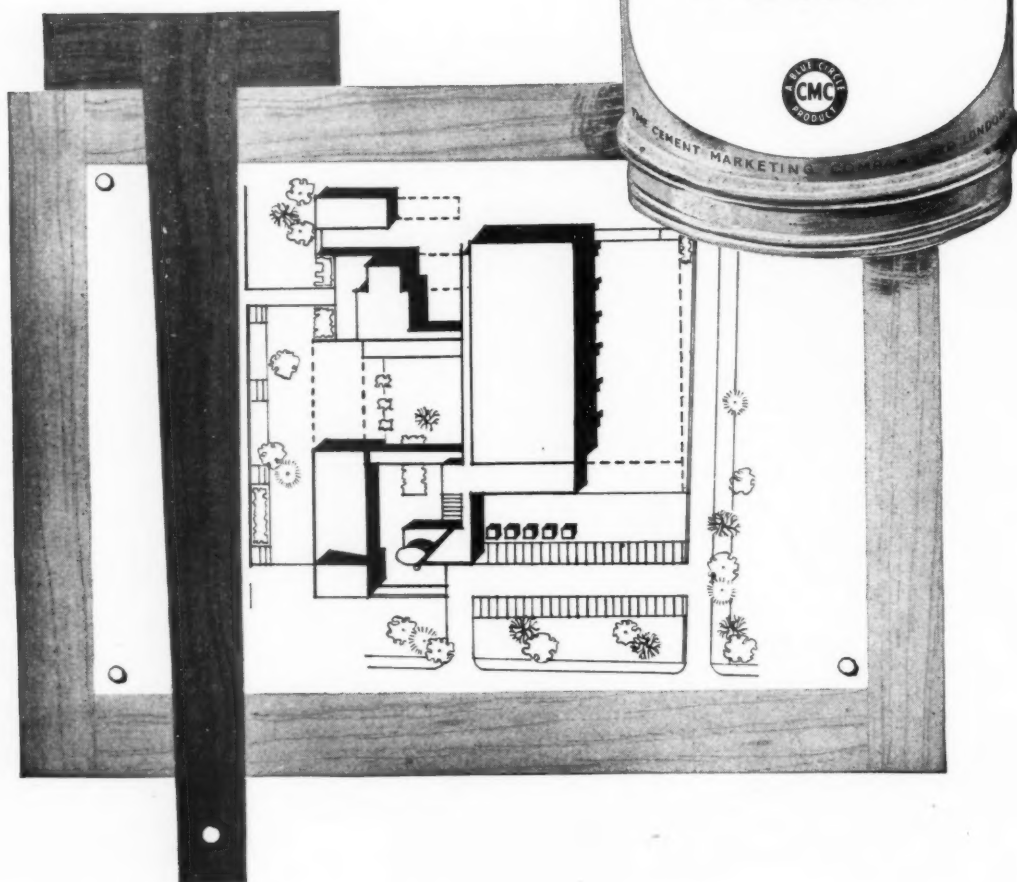
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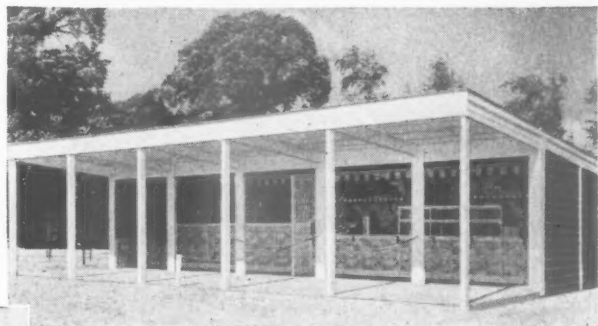
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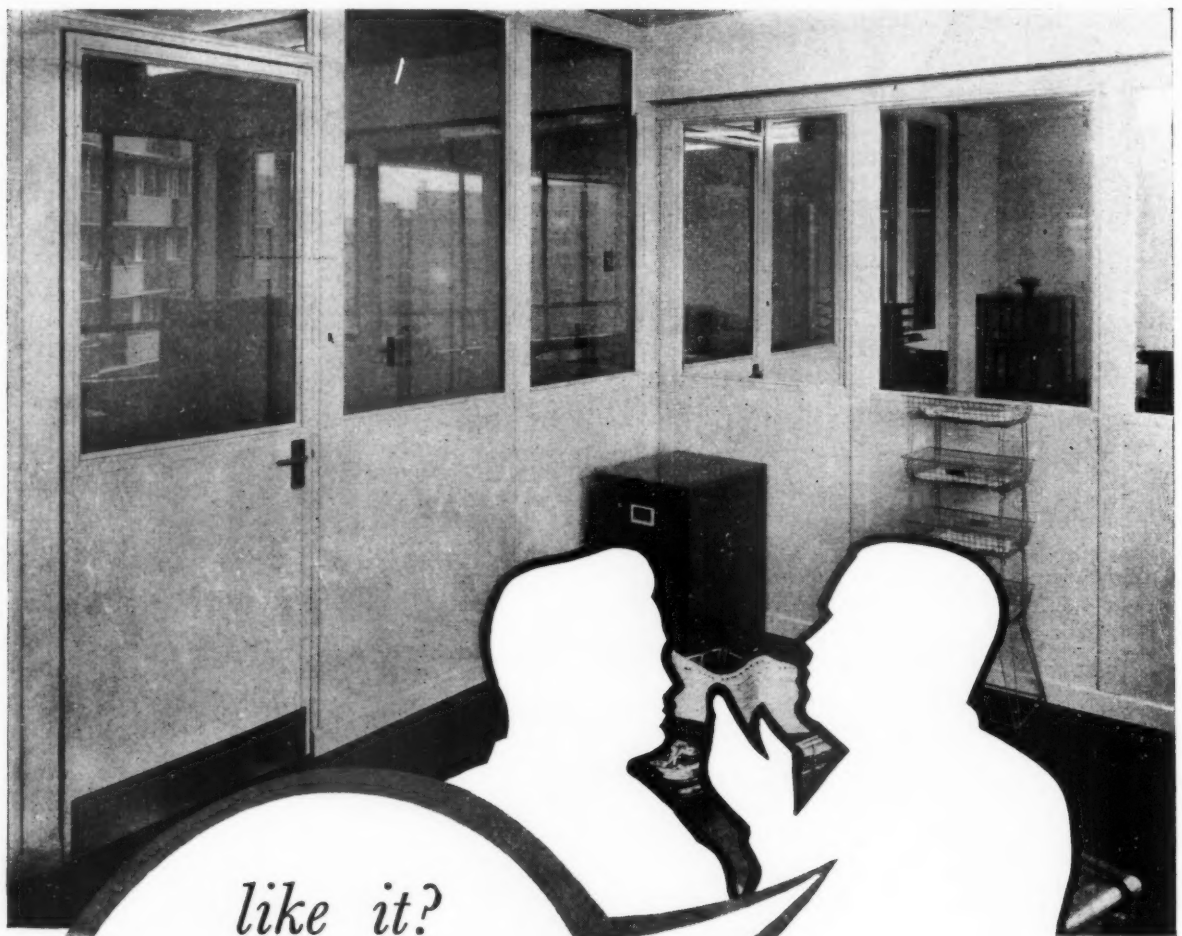
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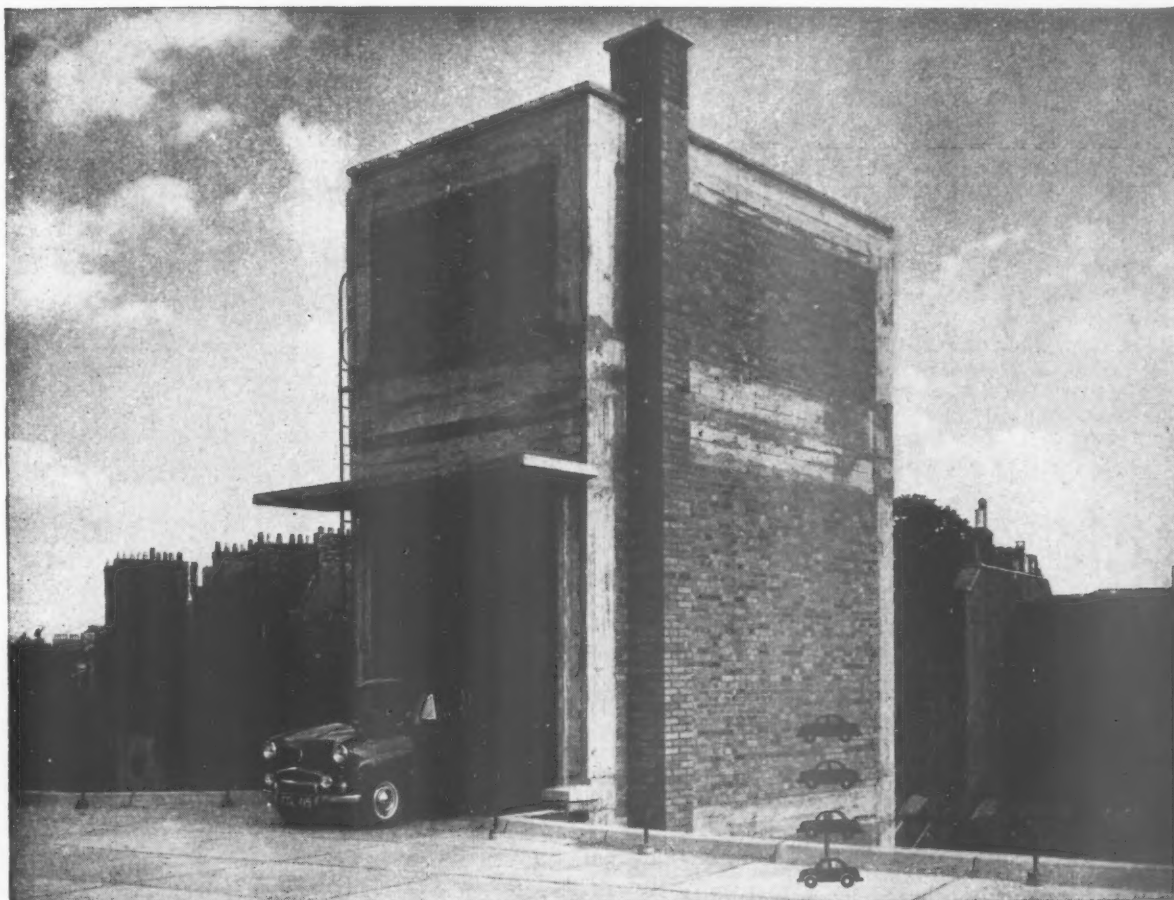
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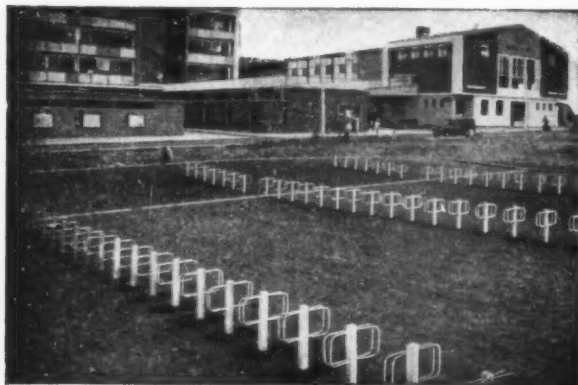
## FIBREGLASS



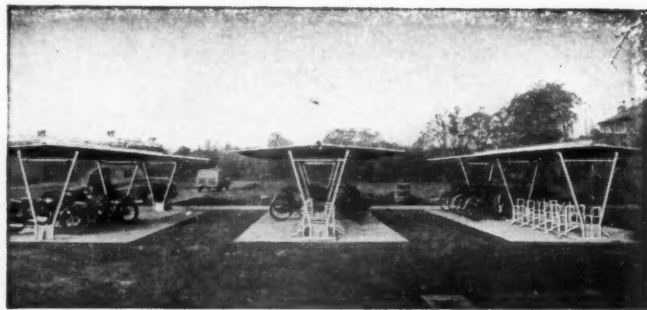
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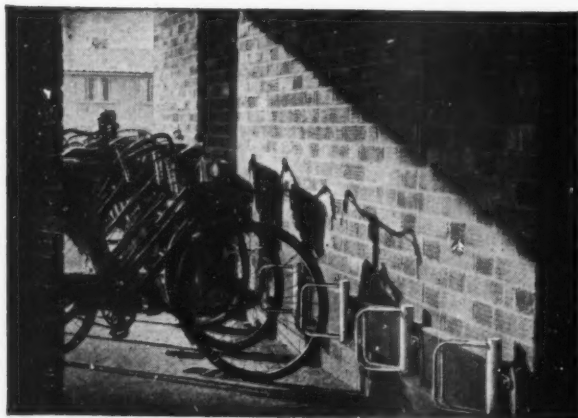
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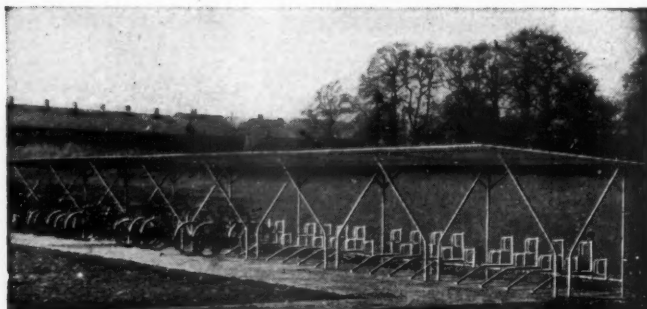
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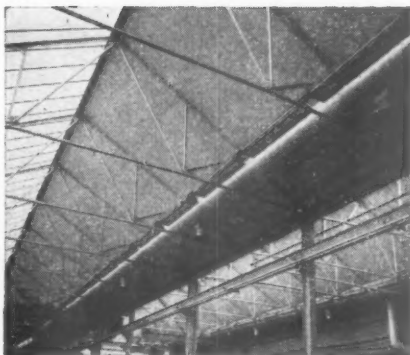
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#### Thermal Insulation at Bristol's

The roof of the 194,400 sq. ft. shop where aero engine components are manufactured has been insulated with  $\frac{1}{2}$  inch Insulating Gypsum Plasterboard. The year following insulation was, on average, 3.3°F colder than the preceding year, yet fuel consumption dropped by 20.6%, cold spots were eliminated within the shop and a steady temperature maintained.  
*Bristol Aeroplane Company Limited.*

## INSULATION and INSURANCE

Insulating Gypsum Plasterboard, fixed adjacent to an air space provides a structure with a U value comparable with that obtained when any other building board is used—and only at a cost of about 5d. per square foot. It conforms to Section II of B.S.476, having Class I surfaces of very low flame spread on both sides, and very low fire insurance premiums can be obtained for building linings in this class.

Plain plasterboard, which has the same qualities of fire resistance, costs approximately 4d. per square foot. Gypsum Plasterboard of either type is readily available and has much to commend it as a building material, being easy to handle, erect and decorate.

#### IT'S THE CORE THAT COUNTS

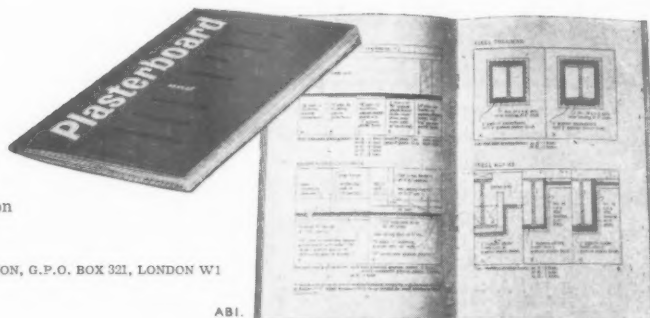
All plasterboard has an incombustible core of Gypsum, which contains 20% combined water. During a fire this water is gradually released in the form of vapour, which provides an effective barrier to the fire's progress.

#### FACTS AND DIAGRAMS

concerning fire resistance and thermal insulation are contained in our free illustrated brochure.

Write today to:

THE GYPSUM PLASTERBOARD DEVELOPMENT ASSOCIATION, G.P.O. BOX 321, LONDON W1



AB1.





*'Durever' p.v.c. flooring made by British Mouldex Ltd., Wellingborough, in the entrance hall of a large laboratory.*

When flooring is made from p.v.c.  
**It's better made from I.C.I. 'Corvic'**

**W**HEN you use 'Corvic' p.v.c. polymers you benefit from the finest research and technical service in the country. I.C.I. put that service at the disposal of all users of p.v.c. Indeed, even if you are only considering using

p.v.c. I.C.I. will be glad to help you.

The illustration shows p.v.c. flooring in a large laboratory. It is handsome, hardwearing, easy to clean and maintain. The p.v.c. used by British Mouldex Ltd., is 'Corvic' — there is none better.

**'CORVIC'**

*'Corvic' is the registered trade mark for the p.v.c. polymers manufactured by I.C.I.*

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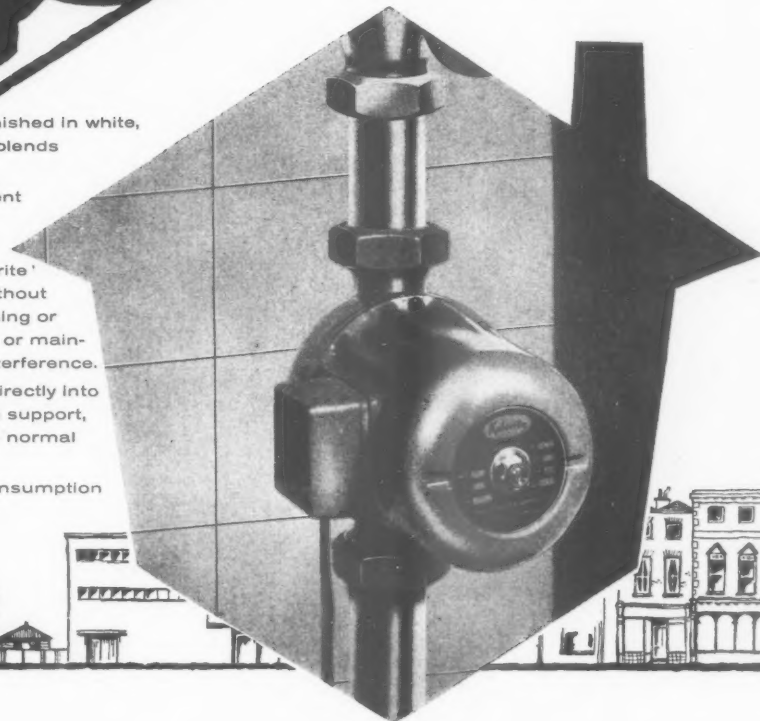
....the **Kalorite** circulator



Forced circulation with the 'Kalorite' means cheaper, neater and more efficient central heating.  
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KALORITE CIRCULATORS FOR HOT  
WATER HEATING SYSTEMS*

- \* **PLEASING APPEARANCE**—finished in white, its compact, neat body blends with any surroundings.
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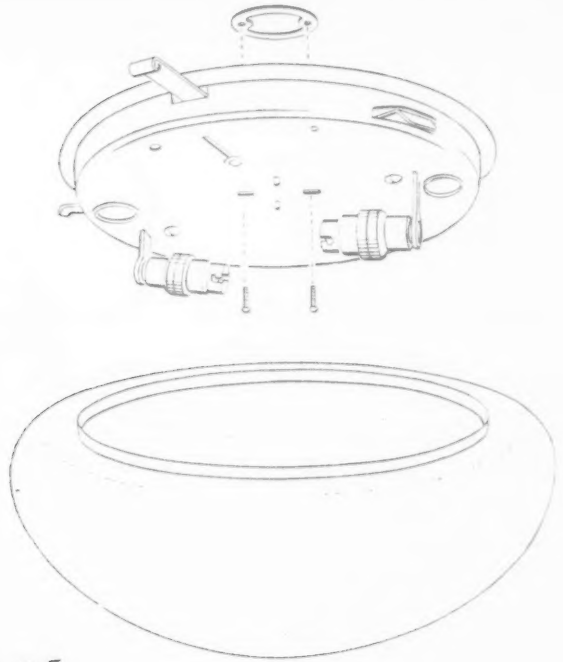
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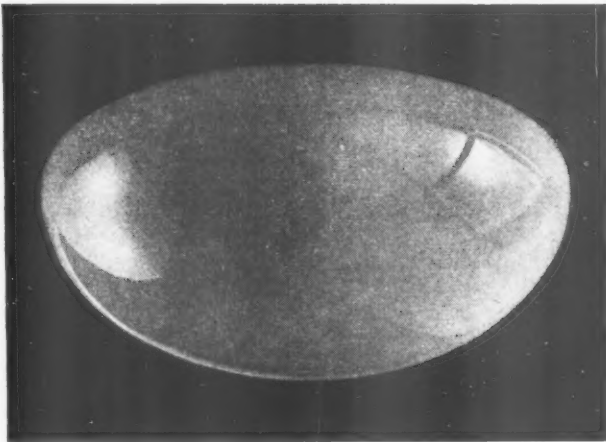


THE MIDLAND WOODWORKING CO LTD MELTON MOWBRAY

STYL 19



*it's as easy as that*



... but the beauty of this fine fitting is not altogether in the eye of the beholder. Three spring arms hold the British 3-ply glass in position on the anodised aluminium backplate. Appearance and durability are thus combined.

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*fine lighting fittings*

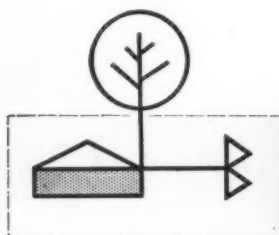
TROUGHTON & YOUNG (Lighting) LTD., *The Lighting Centre, 143 Knightsbridge, London, S.W.1.*  
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RFW.34



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# The eggs are in fewer baskets

TWELVE MONTHS AGO, when building operations were curtailed and bricks were very plentiful, the brick industry presented "The Case for the Local Brick". It concluded with the following:—

**"Any large-scale closing of brickworks at the present time would not only seriously curtail future supplies; it might well place the building industry in a difficult position, both as to supply and prices of bricks when the present building restrictions are removed."**

The supply position now developing as a result of greater activity in the building industry provides early justification for this warning. Since it was issued, a number of brickworks have been compelled to close down. Meanwhile, builders who were attracted further afield by lower prices are finding that even the largest sources of supply are not inexhaustible.

**It is illogical to ignore the local brickworks when there is a glut of cheap bricks and expect to find them still ready to execute orders when the supply position gets difficult.**

The brick industry is one of the first to suffer when building is curtailed. It takes time to step-up production, and "the eggs" are now in fewer "baskets".

**Give preference to your local brickworks when they need your orders, and they will be there to serve you when you really need them.**



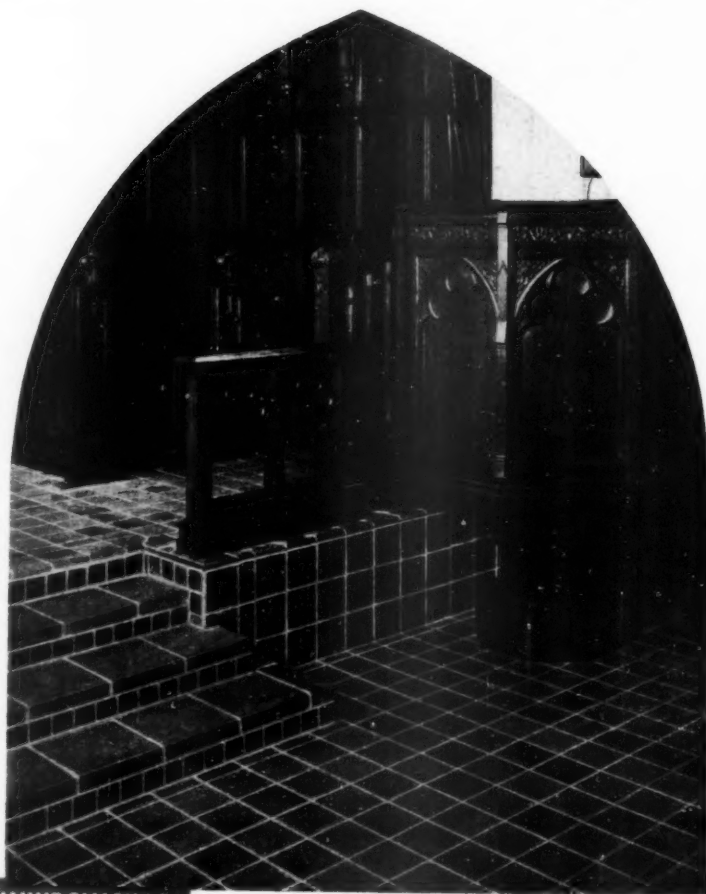


WHERE TIME STANDS STILL ...

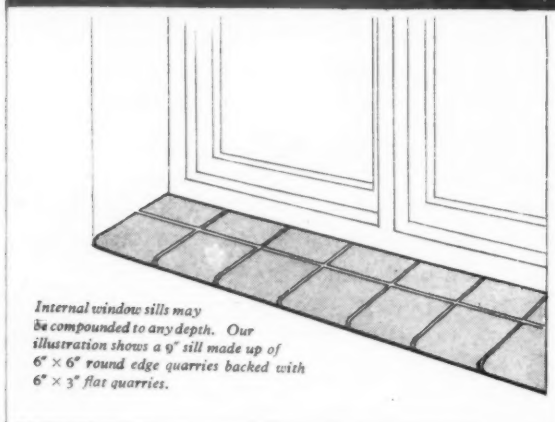
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*provide a beautiful and permanent Church floor covering*

Clay Floor Quarries are a part of our craftsman heritage. Moulded from natural clays and baked in kilns it is the inherited skill of the maker that produces an intense hardness and subtle colour range. Clay Floor Quarries make an ideal floor covering for churches and sacred buildings because they are inexpensive to lay, easily cleaned and maintained. Obtainable in various sizes and thicknesses ... conforming to B.S. 1286 (1945). Type A



### FLOOR QUARRIES FOR INTERNAL WINDOW SILLS



Internal window sills may be compounded to any depth. Our illustration shows a 9" sill made up of 6" x 6" round edge quarries backed with 6" x 3" flat quarries.

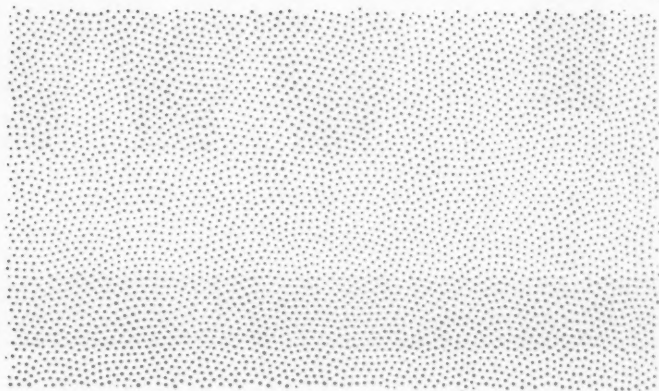
Detailed information may be obtained from Builders' Merchants and Fixing Specialists.



FEDERATION HOUSE STOKE-ON-TRENT STAFFORDSHIRE

CLADDING

WINCILATE



W

**Wincilate** is particularly suitable for wall cladding.

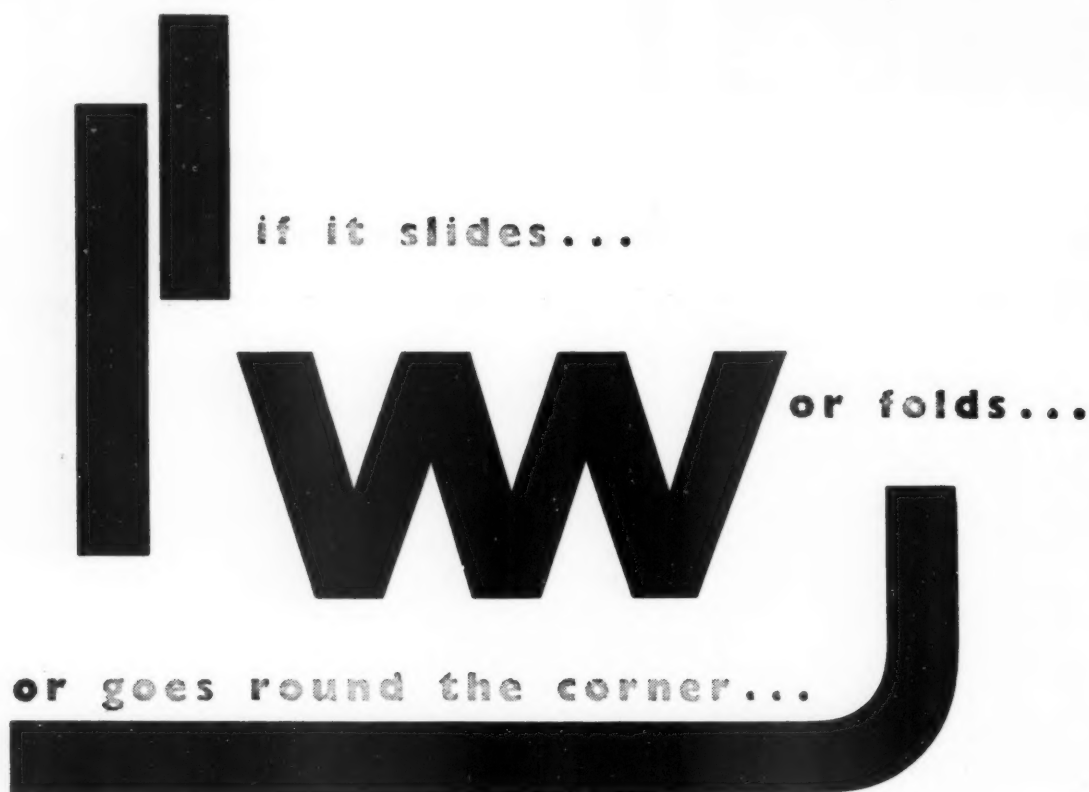
Precisely cut from carefully selected Welsh blue or Westmorland green slate, in thicknesses from 1 in. to 2½ in., and in a variety of finishes ranging from highly polished to strongly textured. Inert and non-porous, **Wincilate** cladding does not warp, shrink or rot, is easy to fix and needs no maintenance. A slab 2 ft. square x 1 in. weighs just over ½ cwt.

Further information on all **Wincilate** products is available from the manufacturers:

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Bow Road, London, E.3. Telephone ADVance 2203.  
Works: Bow and Battersea. Quarries: Aberllefeni.

**The Wincilate Group**





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Remember, too, the KING's service is such that a representative will be pleased to call on you any time, *anywhere* in the world.



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advises on the use of Lead in building work. Most of the many uses are detailed in the Association's publications, and in addition the Bureau's technical officers are always glad to give individual assistance.

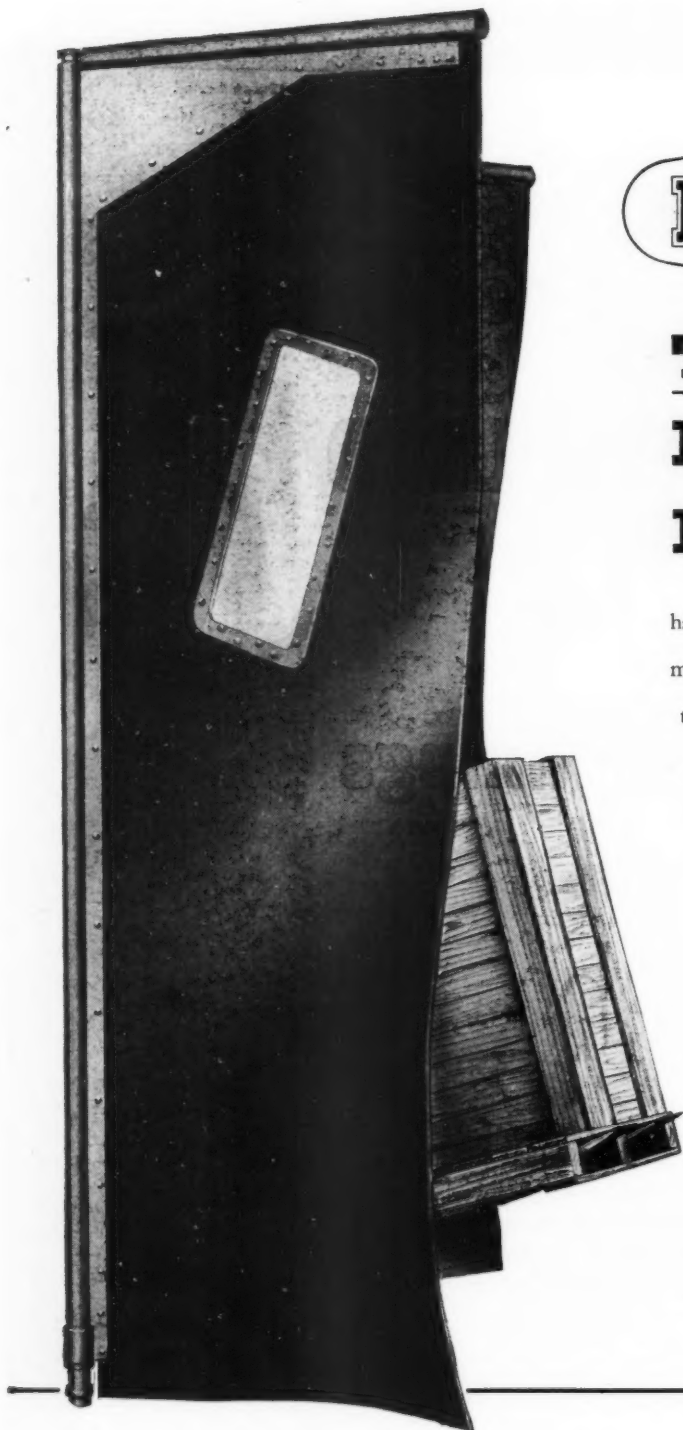
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May we invite you to send for full  
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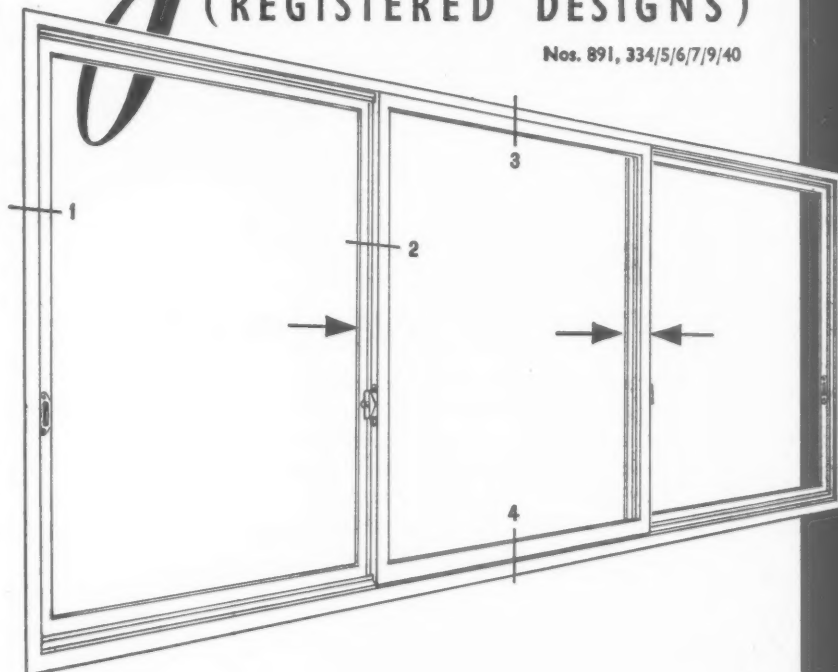
*See Neway Flexible Doors at the Building Centre, 26 Store Street,  
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(REGISTERED DESIGNS)

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Glide windows are completely weather-tight and cannot rattle because of Double weather-stripping of top and bottom rails, at the jambs and interlocking stiles.

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Sashes bypass one another for easy cleaning.

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Glide windows slide smoothly on nylon rollers with stainless steel axles.

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Latch is released as handle is pulled for opening.

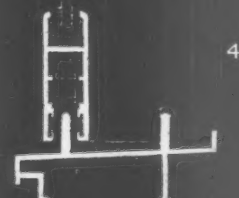
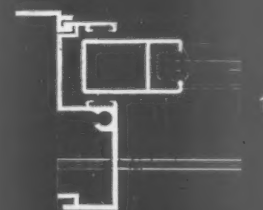
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Affording greatest architectural freedom, Glide units may be used to form continuous fenestration.

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## THERMAL INSULATION!

It is generally agreed that significant savings in fuel costs can be achieved by insulating a building. But, of the many methods of insulation available, which should you select? Common sense suggests that the most efficient is likely to be the most economical in the long run.



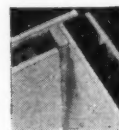
### 'Paramount' INSULATING PLASTERBOARD

is the ideal material for lining all roofs and ceilings because it offers a fourfold return for your outlay. It provides maximum thermal insulation *plus* high fire resistance *plus* economical cost (less than a penny per sq. ft. extra) *plus* the advantages of easy, speedy Dry Construction. Your modest initial investment is soon recovered by considerable permanent economies in fuel.

**Other Blue Hawk Dry Construction Materials:**

#### 'Paramount' DRY PARTITION

*for interior walls and linings.*



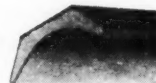
#### 'Paramount' PLASTERBOARD

*for greater fire protection.*



#### 'Paramount' COVE

*for eliminating unsightly cracks.*



DRY CONSTRUCTION is an important part of modern technique. Get details of its advantages from



DRY CONSTRUCTION DIVISION

THE

## BRITISH PLASTER BOARD

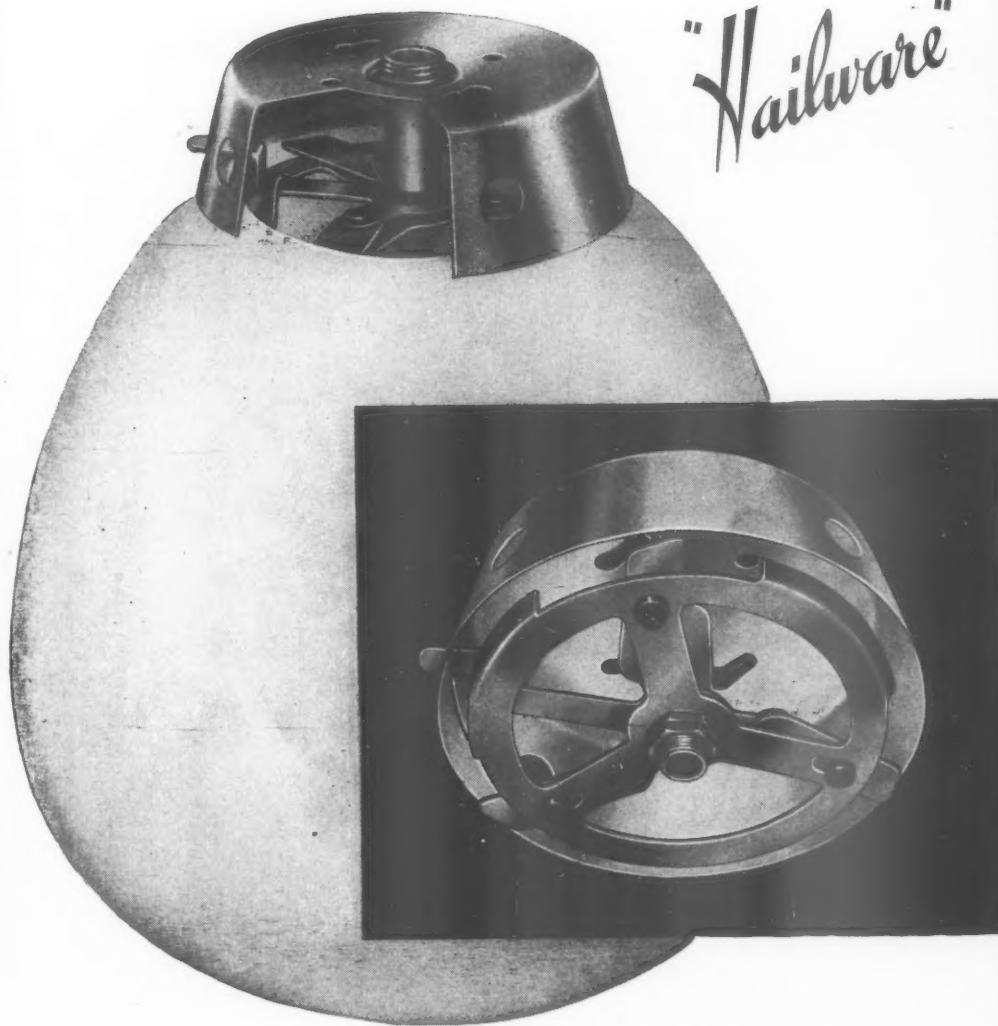
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AP96

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Please specify "Manchester Gallery"



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Paddy Kelly winning high jump championship of Ireland—Dublin 1888

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*That is why so many lighting installations incorporate L.E.F. Raising and Lowering Gear*

When planning new lighting installations, remember that special consideration must be given to the maintenance of lights sited high up.

There is no more practical way of dealing with these than by the installation of L.E.F. Raising and Lowering Gear. This ingenious contact suspension gear allows lights to be lowered to ground level for maintenance and raised again. An important factor from the architect's point of view is that L.E.F. gear can be built into the ceiling and is then completely concealed.

Many well known buildings, street lighting systems, factories, aircraft hangars, etc. have L.E.F. Raising and Lowering Gear. It is the complete answer to difficult light maintenance problems, but be sure to consult London Electric Firm at the planning stage so that they can meet your technical requirements.



### LEICESTER UNIVERSITY—Percy Gee Building

This hall is an excellent example of the concealed fitting of L.E.F. Raising and Lowering Gear which is used for each of the lights. Close liaison by L.E.F. with the contractors from an early stage resulted in a trouble-free installation.

Architects: Thomas Worthington & Sons, Manchester.

Contractors: Witcombe & Blackwell Ltd., Leicester.

Photograph: Thomas-Photos, Oxford.

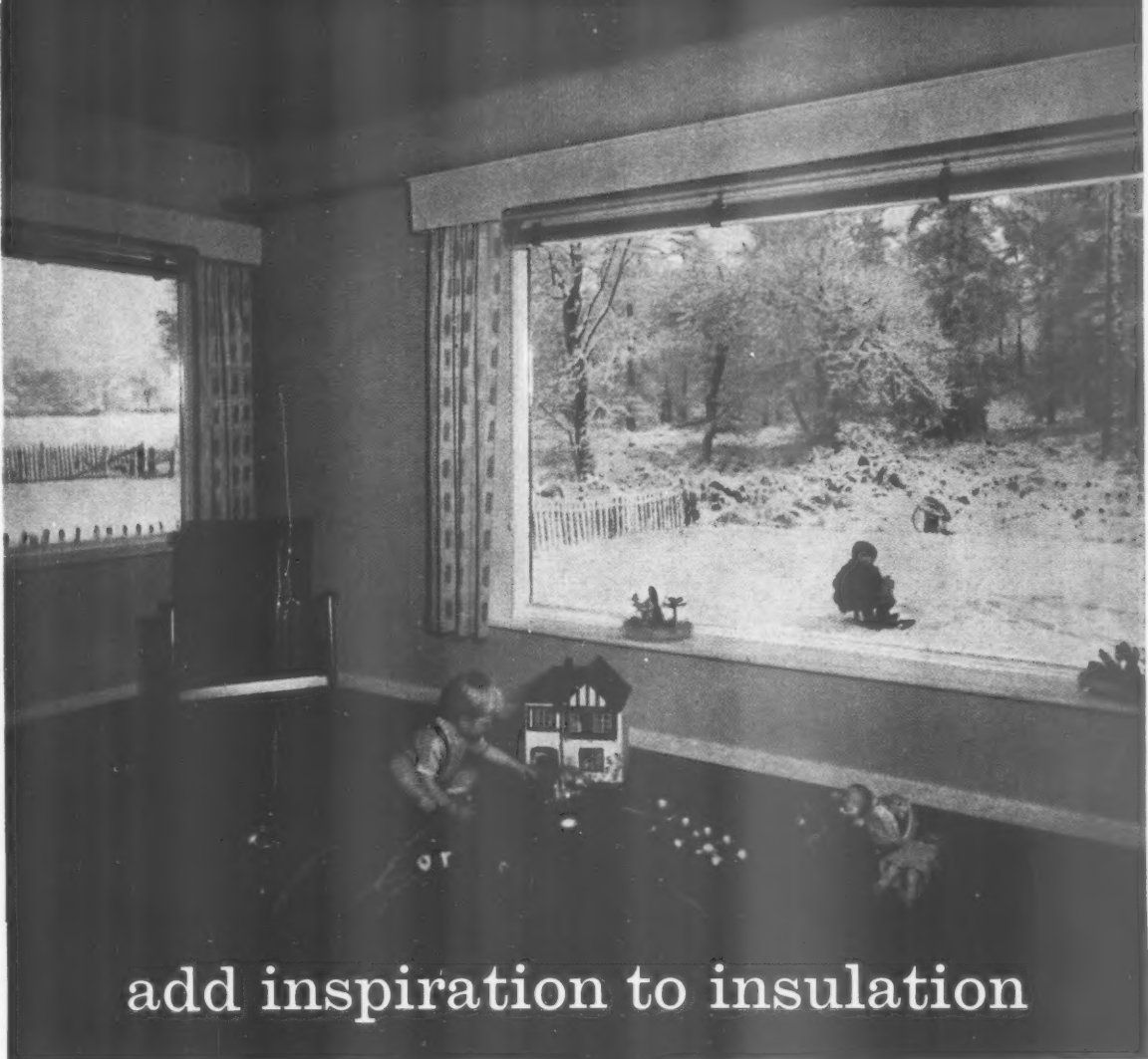
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Lighting Fittings: Troughton & Young (Lighting Ltd.)



**LONDON ELECTRIC FIRM LTD., South Croydon, Surrey. Telephone: Uplands 4871**

Tib. 122

## "INSULIGHT" double glazing units



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Thermal insulation that is really effective ('U' value of  $\frac{1}{4}$ " spaced double glazing—0.57 B.t.u./ft<sup>2</sup>. hr. deg. F.) . . . insulating windows that keep rooms cosy and warm and save fuel while doing it . . . insulation in tall, wide and handsome "Insulight" Double Glazing Units to inspire the design of light, bright rooms.

For further details write to the manufacturers: Pilkington Brothers Limited, St. Helens, Lancashire. (Tel: St. Helens 4001) or Selwyn House, Cleveland Row, St. James's, S.W.1. (Tel: WHitehall 5672-6).

## Pilkington Brothers Limited

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Supplies are available through the usual trade channels. "INSULIGHT" is a registered trade mark of Pilkington Brothers Limited.





Problems solved from cold

NUMBER 13 IN A SERIES



# How we kept a Bloodhound hot on the scent

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Bristol-Ferranti brought this problem to Prestcold. Naturally enough, because we have vast experience of every sort of refrigeration problem. Our equipment is extremely versatile. And although this was strictly a space-age job, it was no more difficult than a whole series of problems that we had already tackled successfully for people in various branches of industry, commerce and science.

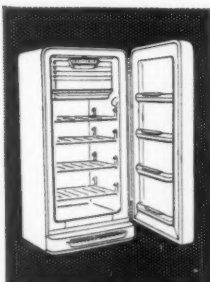
## THE PRESTCOLD SOLUTION

Precise details of the Bloodhound and the Prestcold equipment used at the launching site may not be published. But we can say that our equipment provided a complete solution to the problem.

It is thanks to Prestcold refrigeration that the Bloodhound is kept at the correct temperature while on the launcher, thus ensuring that after launching it stays hot, but not too hot, on the scent.

### HOW PRESTCOLD CAN HELP ARCHITECTS

- \* Intense research, close attention to detail, experienced engineering—these qualities go into every Prestcold job, into the standard refrigerators and frozen food cases as well as into equipment made to meet a special need.
- \* THE PRESTCOLD SC.141 has a capacity of 14 cu. ft. but requires only 31" x 31" floor space.
- \* It has a 35 lb. capacity short period storage frozen food locker and four big capacity door shelves. Complete refrigerator guaranteed for one year, sealed refrigerating system for five years.
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Manufactured by:

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*Sole Selling Agents for U.K. and Eire,*

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MELBOURNE HOUSE, ALDWYCH, LONDON, W.C.2**

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Take a strip of Escaboard and a strip of ordinary hardboard. Give each a coat of paint, or any standard finish and see the astounding difference!





(Artist's impression)

The "beauty" of Number Seven decorative finishes is two-fold—their lasting "eye" appeal and their unique variety of applications both interior and exterior. With the suitable primer you can now specify Number Seven Exterior Flat Finish for nearly every standard surface—wood, metal, brick, plaster, concrete—and thus eliminate estimating and ordering complications as well as time wasted in mixing and matching colours. An impressive list of recent contracts is proof of Number Seven's outstanding success in all types of contracts.

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**the specification**

**remains the same**



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Contractors: L. H. Mildwater and Sons, Woolwich



# NUMBER SEVEN

## NUMBER NINE

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Number Seven is available in a range of fifty-four matching colours as a gloss, satin or interior and exterior flat finish. Write for colour card and standard specifications.

**You can depend on *Cementone* products**

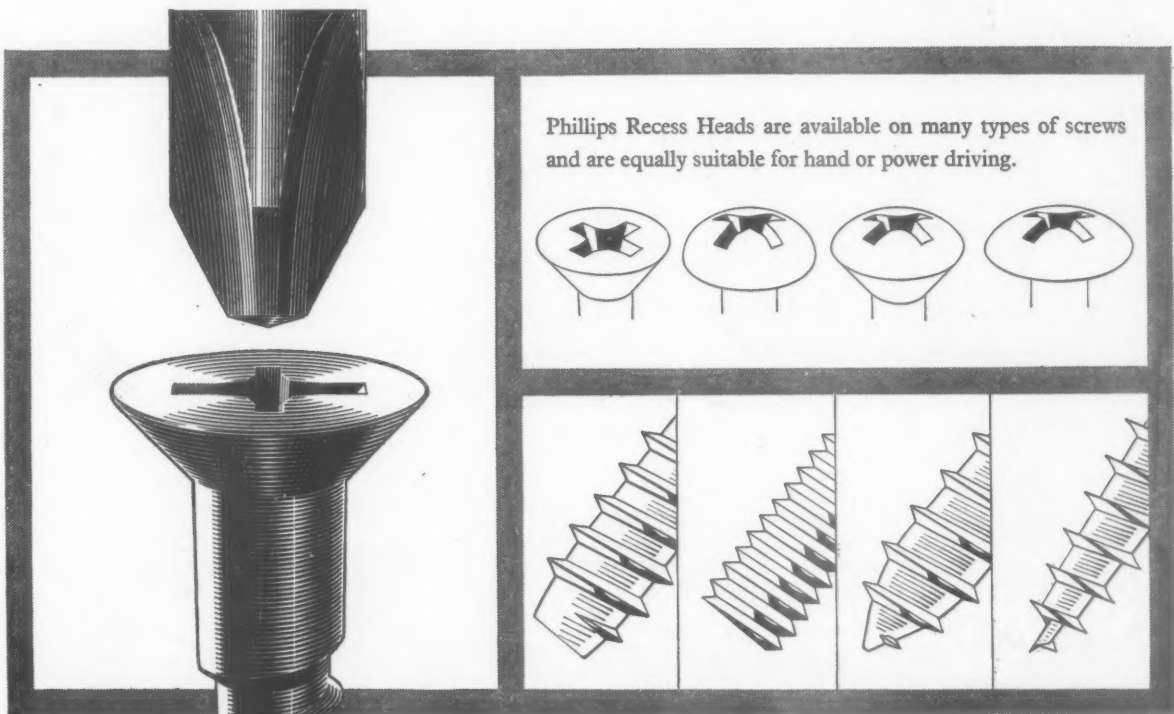
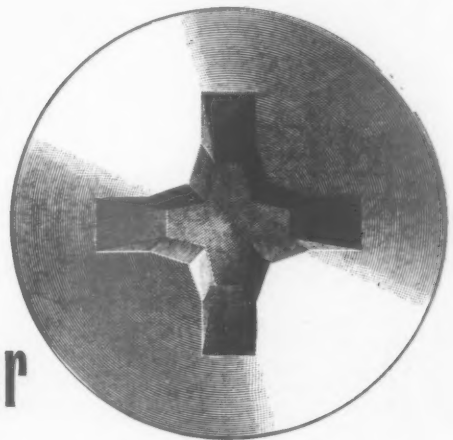
JOSEPH FREEMAN, SONS & CO. LTD., CEMENTONE WORKS, WANDSWORTH, LONDON, S.W.18 Telephone: VANDyke 2432 (10 lines)



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ON WOOD SCREWS, METAL THREADS AND SELF-TAPPERS

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Screws perfectly.  
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because overhead positions and awkward angles are easier to get at and because the screws go in straight every time.

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To be more accurate, in the case of this large block of flats, more than one jointing problem was solved by using Expandite 'Seelastik'—an all-purpose flexible sealing compound. It was used for sealing expansion joints as well as for pointing joints around windows and doors.

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For every specialised requirement in sealing and joint-filling Expandite can provide a product that will solve the specific problem. The Expandite Technical Service Department is ready not only to recommend to Architects, Builders and Civil Engineers on how best to use the many Expandite products that are available, but also to offer advice — without any obligation — on any problem concerning 'joints-that-move'.

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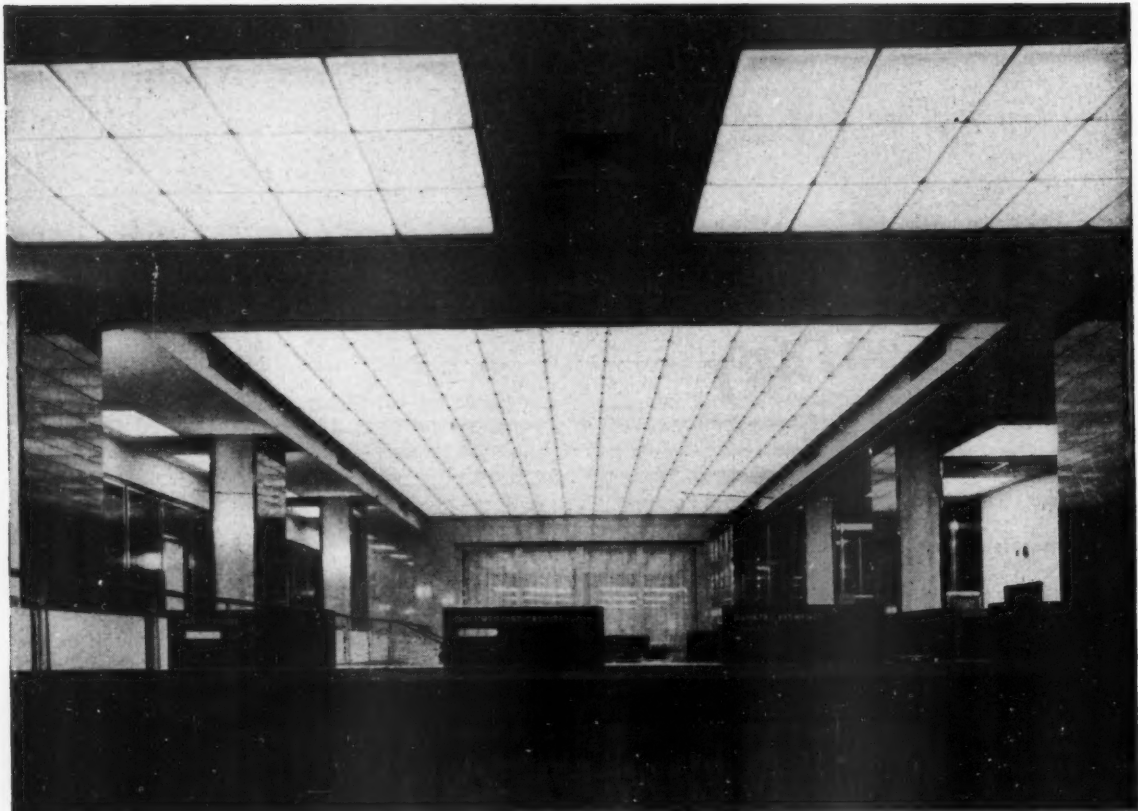
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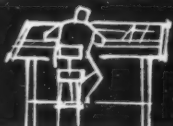
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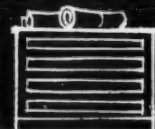
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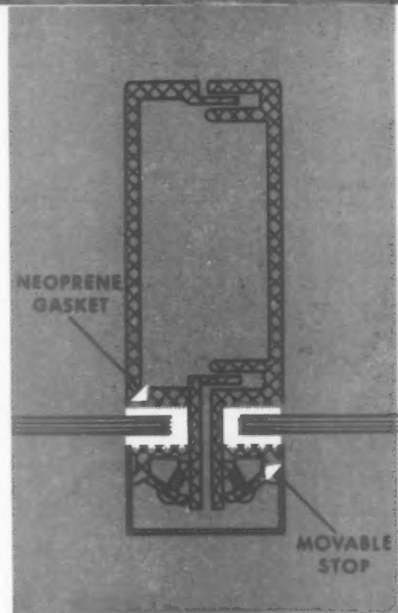
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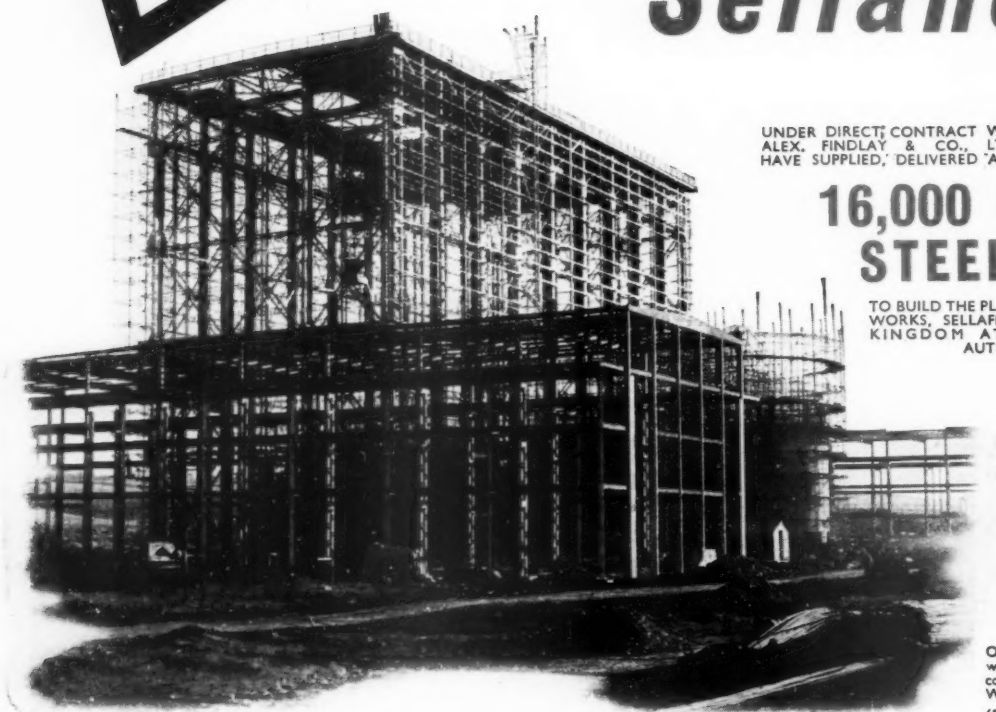
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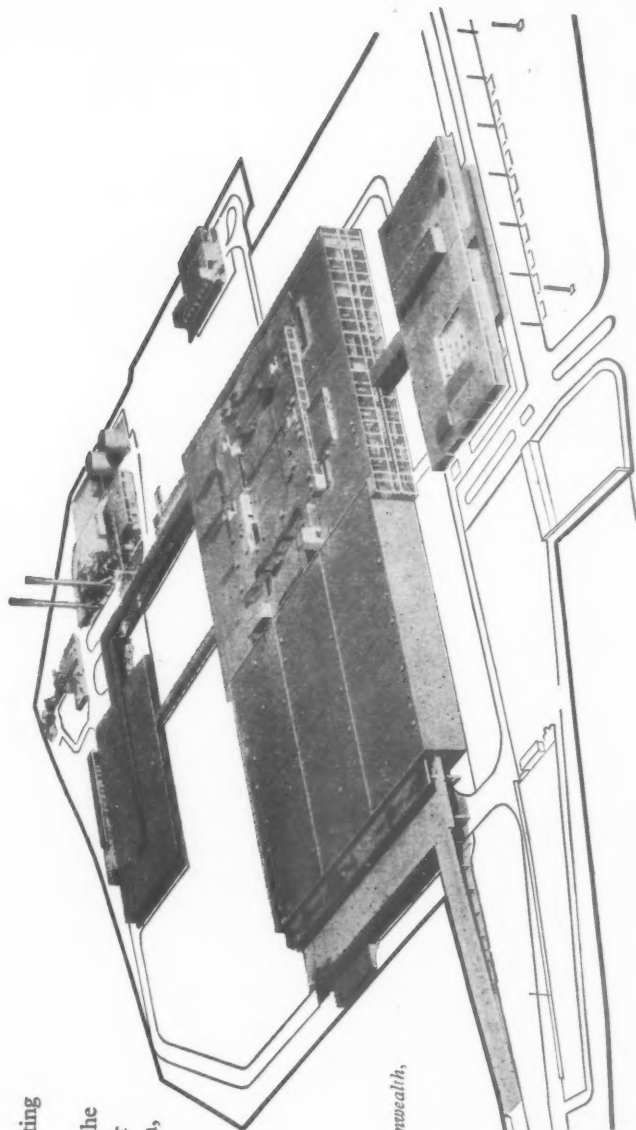
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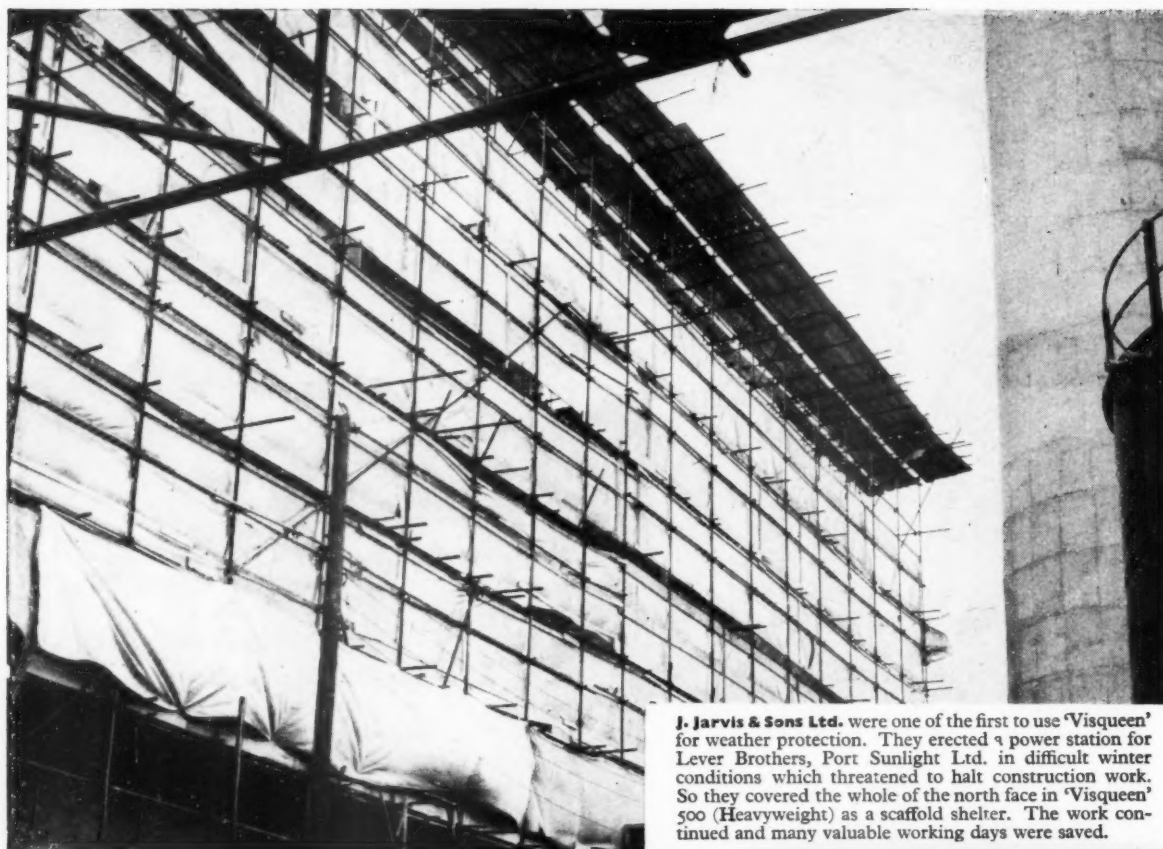
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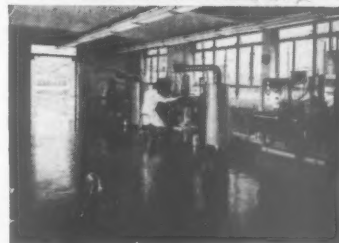
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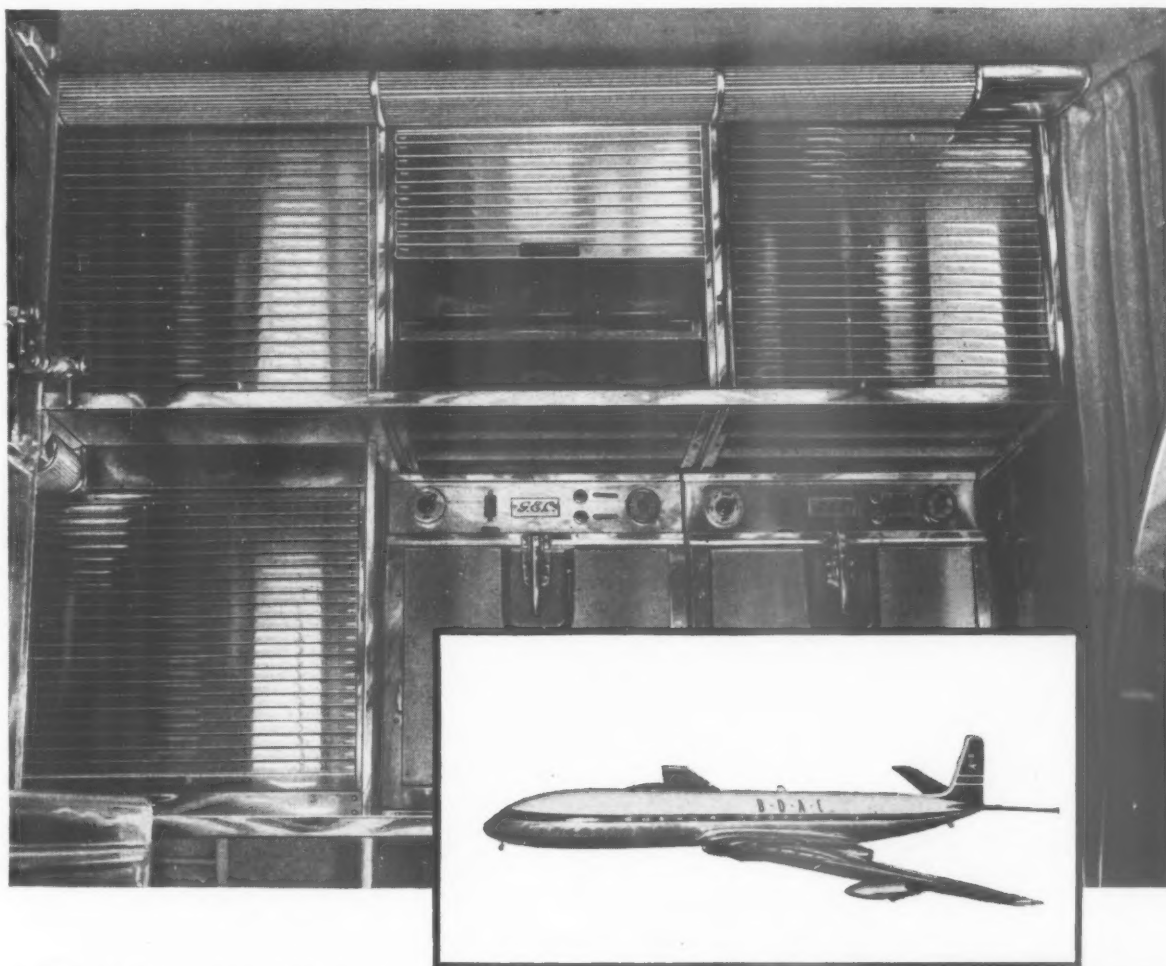
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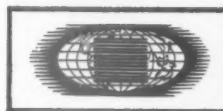
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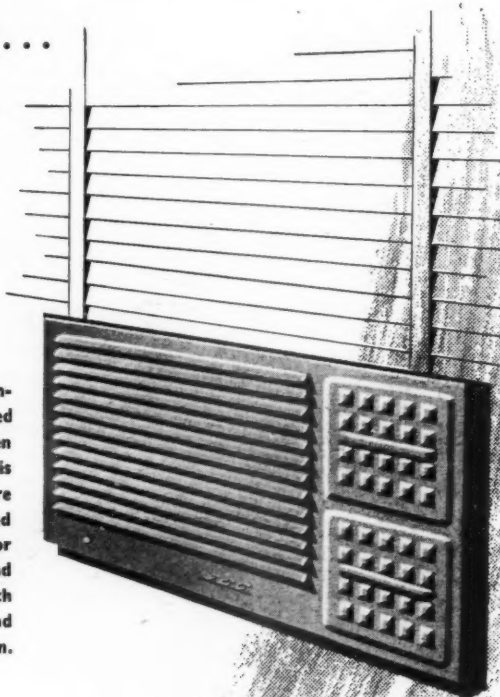
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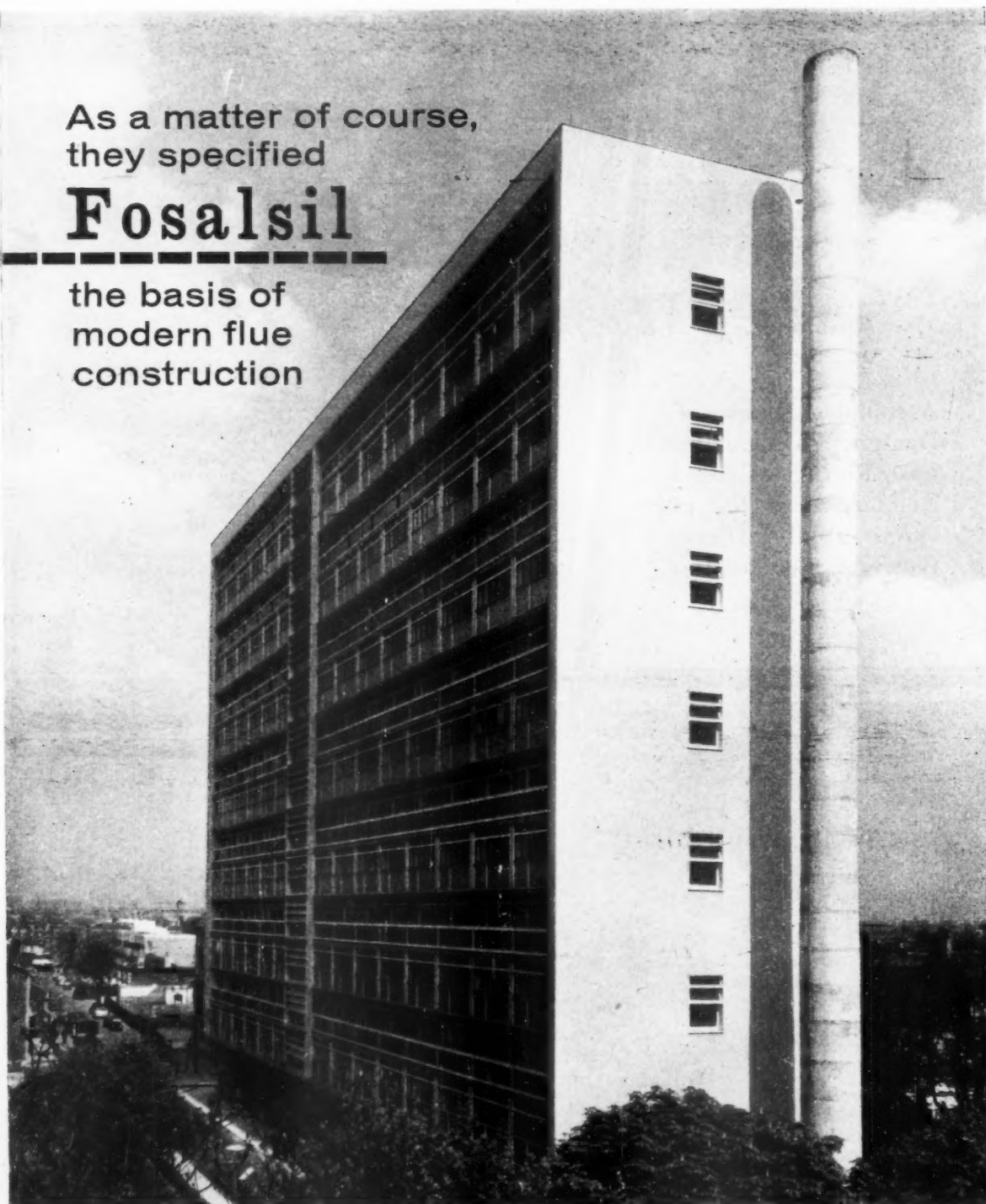




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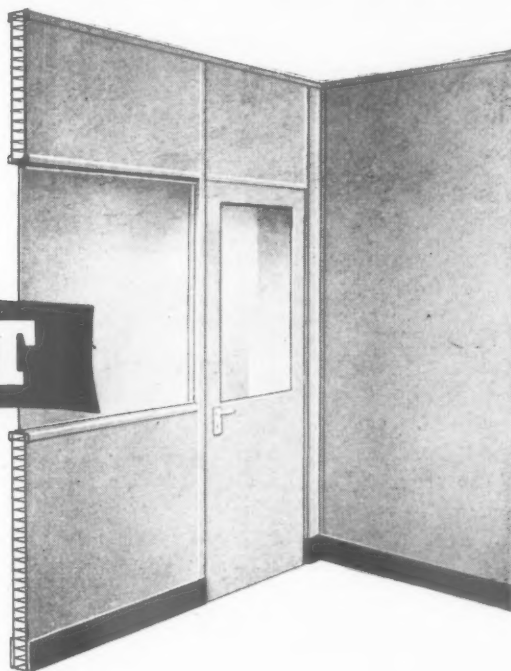
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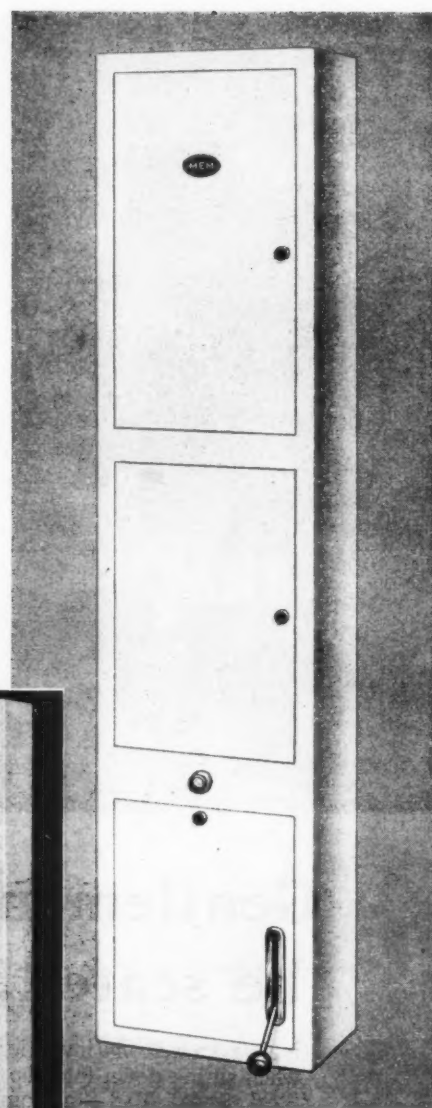
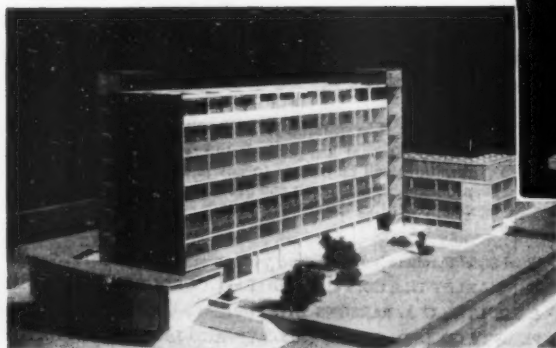
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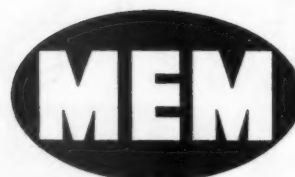
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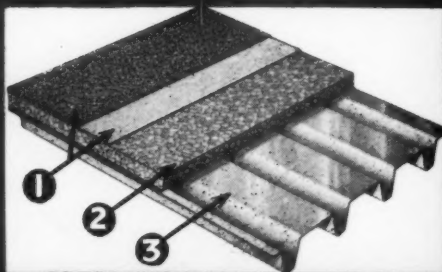




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ARCHITECTS: Rolls Royce Ltd.

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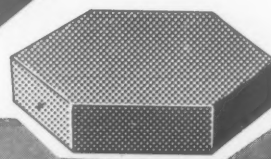
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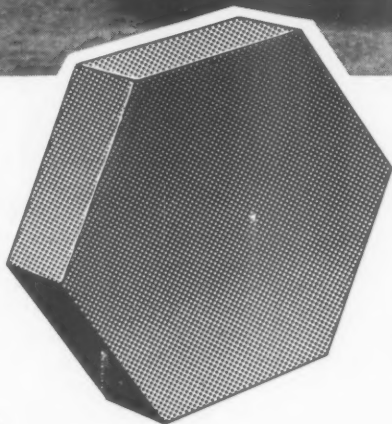




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Photograph by—Arthur Cooper, Coventry.



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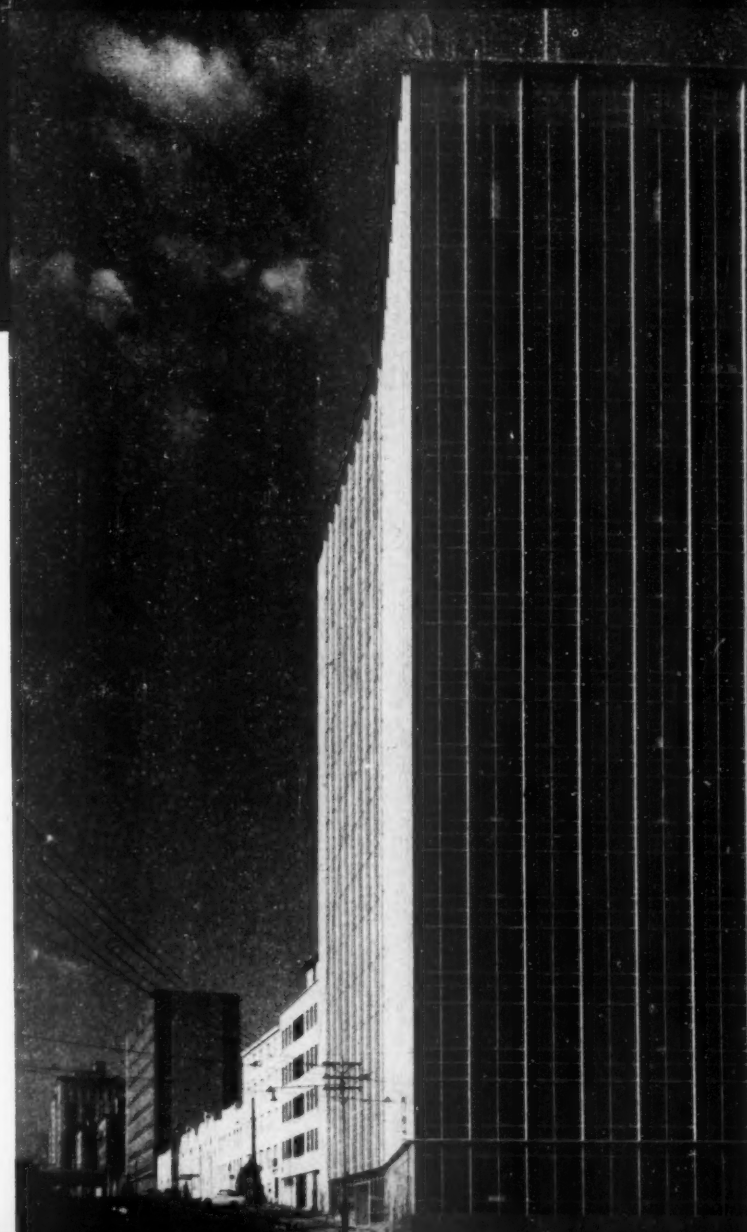


## Commonwealth architecture

The October issue of  
**THE ARCHITECTURAL REVIEW**  
will be a special number  
illustrating the best of post-war  
architecture in Australia, New Zealand,  
Canada and South Africa largely from  
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Nikolaus Pevsner during his  
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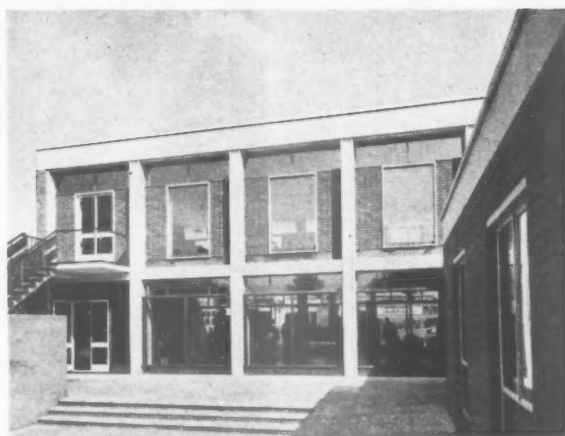


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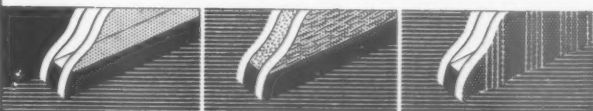
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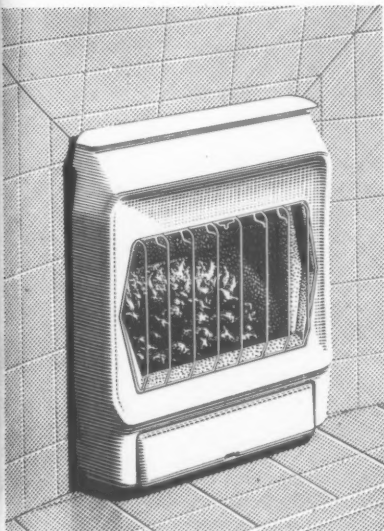


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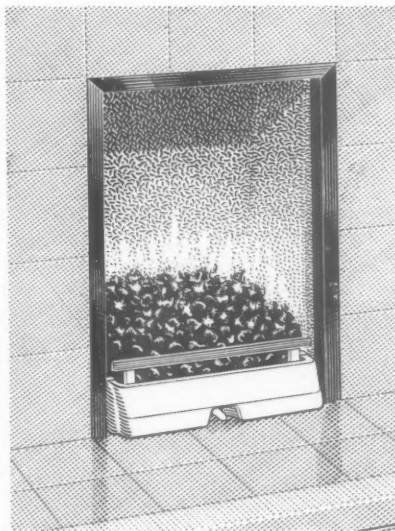
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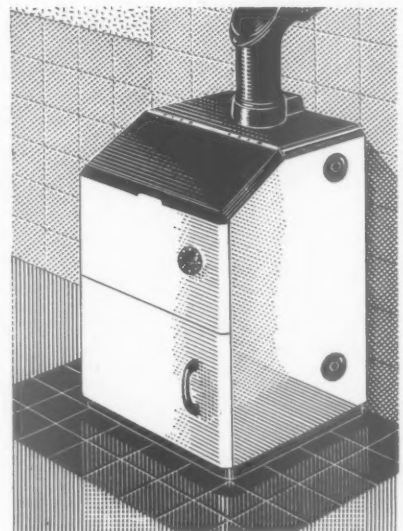
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## *Module problem solved—*



Planet House, Chiltern Street, Baker Street, London. Architects: R. Seifert and Partners.

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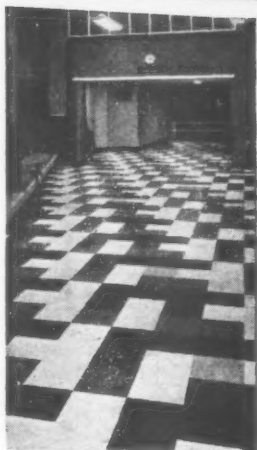
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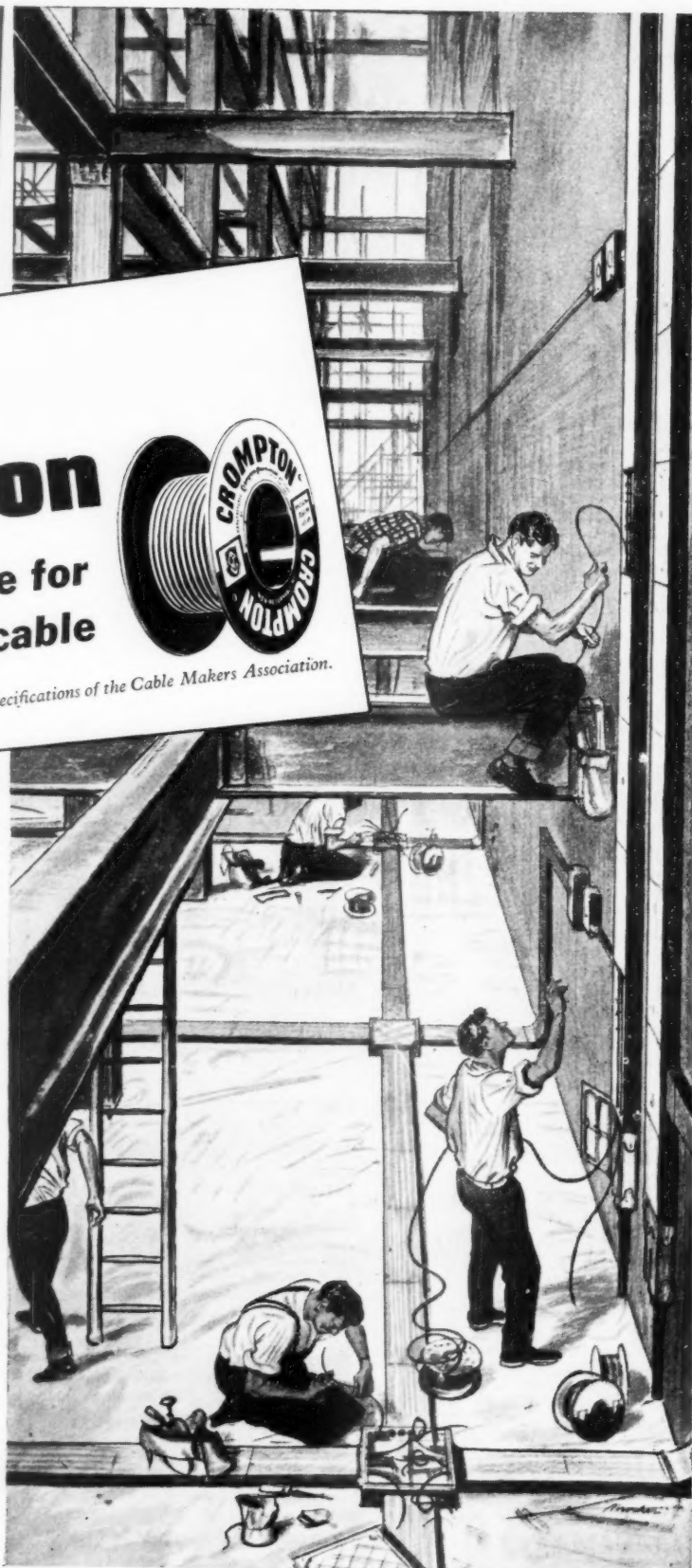
*Contracts (Linoleum Division)*

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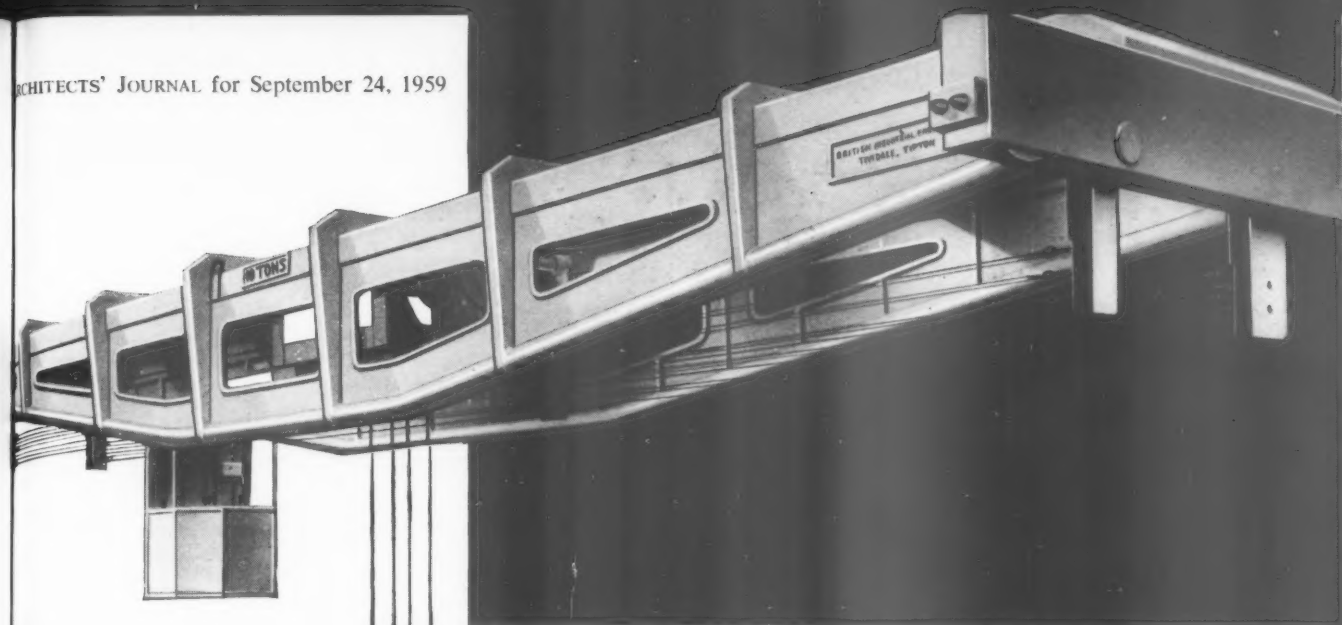
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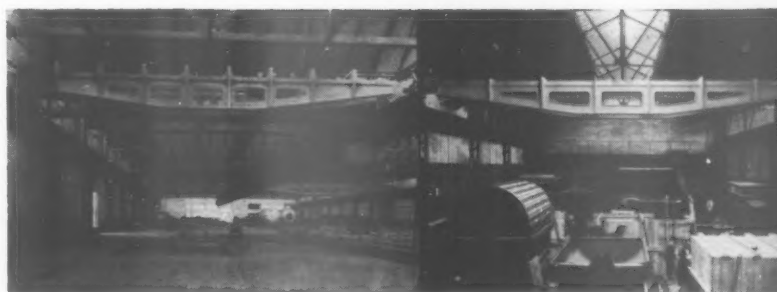


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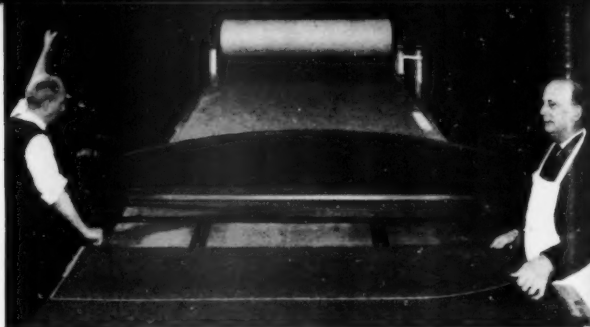
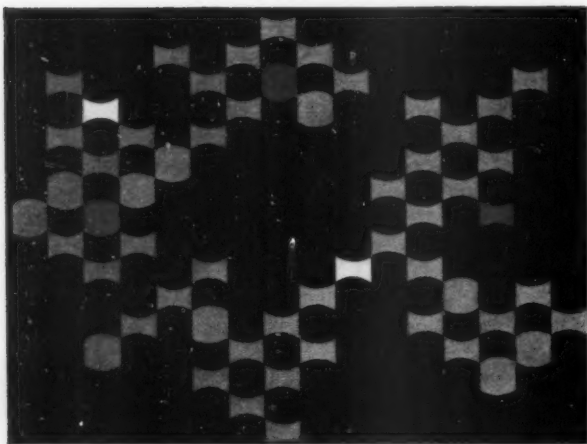


*This is the second in a series of articles designed to interest and inform architects on the techniques and scope of linoleum opportunities open to them with modern linoleum floorcoverings.*

# linoleum contractors' techniques

To an increasing extent in the last few years, flooring contractors have cut linoleum into tiles instead of laying it in the form of sheet; some of them say that they use tiles for 90% of their work. This article explains some of the reasons for the change and suggests ways in which the architect can turn this new flexibility to advantage.

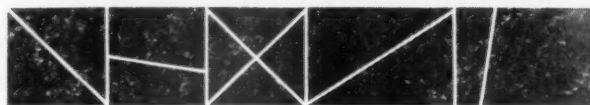
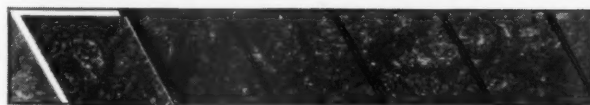
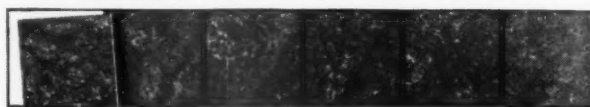
Linoleum in sheet form is still cheaper to lay when large unobstructed areas are to be covered; but when faced with complex outlines and central pillars, especially in cramped areas, flooring contractors have found that they can install tiles with very little waste of material, and at costs that are competitive with sheet linoleum. It is here that some knowledge of the contractors' techniques and working methods can help the architect to design interesting floors and still keep down costs.



Photos of guillotining and die-cutting: Courtesy E. J. Elgood Ltd.



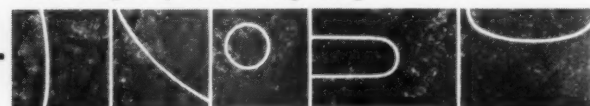
**Cutting tiles** The contractor uses a guillotine to cut 'slabs' of linoleum across the roll, wide enough to allow a small margin for trimming the tile later. The tiles themselves can be hand-cut by knife—a slow and expensive process—guillotined, or die-cut.



**Guillotining** Hand-operated or power-driven guillotines can cut squares, oblongs and triangles almost equally economically.



**Die-cutting** Some contractors have semi-automatic machines that cut tiles up to 18" square in one movement. These machines also accept special dies to cut other shapes—such as those below—simultaneously with the rectangular tile. (Both parts of the tile should be used in the design to minimise waste.) The design of such shapes should avoid running the shaped cutter into the corner of the tile, where it would create strong side pressures during cutting.





**Strip cutting** Lacing strips and border strips, in widths ranging from  $\frac{1}{2}$ -inch to 18 inches, are used to form decorative effects or borders. (For use as borders, they are cut slightly wide to allow for fitting to irregularities of the wall line.) The cutting machine slices almost through the thickness of the linoleum to make the strips, which are then finally separated as required by the layer on site.

**Economical tile sizes** Since linoleum is delivered in rolls 72 inches wide, contractors find the following sizes the most economical to cut:

NOMINAL: \* 9 inches, 12 inches, 18 inches, 24 inches, 36 inches.

\* Actual sizes are approximately  $\frac{1}{4}$ -inch less than the nominal sizes of all purpose-cut tiles.



#### THE USES OF SHEET LINOLEUM

This article does not, of course, set out to show that tiles have entirely replaced the traditional way of laying linoleum in sheet form—even where the architect wants to introduce designs in his floor. Below are three ways of using sheet linoleum in individual situations:—

**Hand-cut designs** Linoleum is easier than most floor coverings to cut into individual designs, and cutting by hand offers the designer the greatest possible freedom of treatment in producing a spectacular floor like the one shown below. At such a focal point—it was, in fact, John Piper's 'Baroque Room' in *The Observer's* Film Festival—the extra cost would be amply justified.

*Courtesy Design magazine*



IH SYMBOL DESIGNED BY RAYMOND LOEWY  
Courtesy International Harvester Company  
of Great Britain Limited

**Hand-cut motifs** Most contractors employ craftsmen who will enjoy reproducing in linoleum a motif like this one, being laid in the entrance hall of International Harvester's offices in City Road, London.

**Repeated motifs hand-cut by template** For special purposes, the contractor can make a hardboard or metal template to cut out several motifs—and the corresponding spaces for them in the background colour.

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A full-colour book illustrating new directions in floor design will soon be available to all interested architects. If you would like to receive a free copy immediately upon publication, please write to: Michael Nairn & Company Limited, P.O. Box 1, Kirkcaldy, Scotland.

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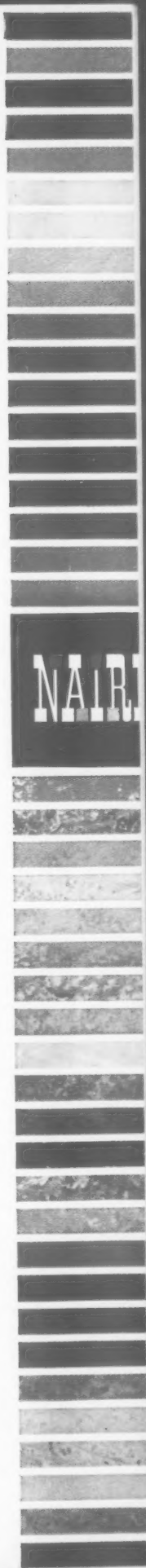
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*Glamorock used to gay effect on the Classic cinema, Chelsea. Architects: Downton & Hurst. Contractors: W. Phillips & Son Ltd.*

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**The Architects' Journal**

No. 3362 Vol. 130, September 24, 1959

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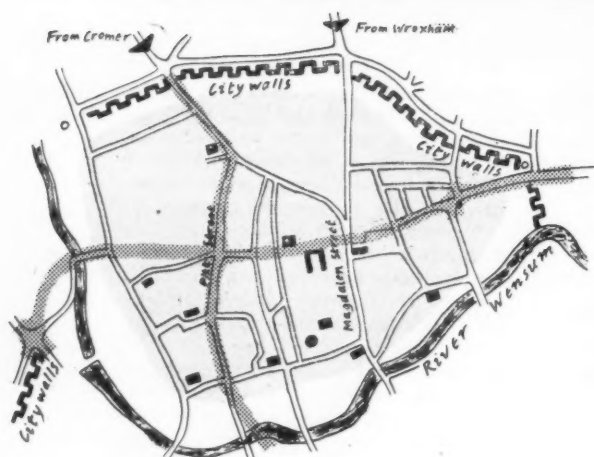
NOT QUITE ARCHITECTURE

### *New York in the Nineties* (continued)

The Elevated Railroad, then carrying steam trains, ran its noisy way along 2nd, 3rd, 6th and 9th Avenues, part of Broadway, and up and down both sides of the Bowery, adding its clatter to that of the carriages, teamsters' wagons, hansom cabs, horse and cable trolley cars which congested the foregrounds of the photographs and perspectives studied by our correspondent, rattling over the uneven pavements which remain, even to-day, an unforgettable feature of New York. The popular garb of the time, apart from the silk hat and frock coat of the financier and idler, seems to have been a tape-trimmed cutaway coat, crumpled trousers, thick boots and a billycock, or bowler hat, though as a summer alternative, a straw boater was permissible. A domical helmet was much in vogue in official circles, being worn in grey by policemen, pale blue by postmen, and white by "whitewings," or street cleaners, a busy profession in those days before benefit of Detroit. Sunshades or parasols carried by men were an affectation comparable to to-day's addiction to sun-glasses. On the avenues and downtown below Wall Street the most important commercial structures were rising, and, though bearing-wall structures of 14-16 storeys were not uncommon, nothing spectacular in the way of high buildings had yet come along, though the American Tract Society had recently announced its intention of building on Nassau Street a 23 storeyed building, 291 ft. high, faced with granite, terracotta and brick, to the designs of Mr. R. H. Robertson.

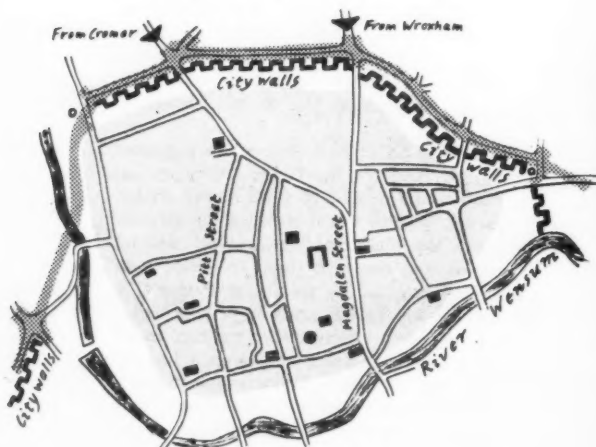
Disputing an opinion later to be expressed by Mr. Gideon, the Cutler Company, inventors and makers of vertical mail chutes, smugly pointed out that whilst the elevator made the high building possible, without an efficient system of mail collection such as that provided by the Cutler Patent U.S. Mailing System, the problem of high buildings remained unsolved. For the façades of the smaller commercial buildings a formidable and rock-faced Romanesque manner, possibly inspired by Mr. Richardson, was rapidly taking hold, though the hand of the





## Knocking Norwich Down

When Magdalen Street, Norwich, was given its rejuvenation treatment by Misha Black earlier this year, at the instigation of the Civic Trust, few people can have supposed that H. C. Rowley, the Norwich City Engineer, was planning to punch a hole in it for an Inner Ring Road. That, however, is exactly what he proposes to do in the "Norwich Road Traffic Report, 1959," which he has presented to the City Council. Our pictures show the redecorated Magdalen Street at the point where Mr. Rowley proposes to knock it down. The plans show his scheme (left) to run the Inner Ring Road through the old Coslany quarter, and (below left) the Norwich Society's alternative. A report by Michael Gooch is on page 224. Next week a special issue of the AJ on motor traffic discusses among other things the consequences of allowing road planning to be determined by engineering considerations alone.



Beaux Arts-trained men was beginning to show in such buildings as that on Fifth Avenue for Charles Scribner. These mingled with tasty little essays in early French Renaissance and the terrifying adaptations of medieval Italian fortress architecture to the military armories which the pacific nation was energetically erecting in most districts of the city.

Mr. F. H. Kimball was busy with the Manhattan Life Insurance building on Broadway, a narrow but lofty layer cake of assorted French details, McKim, Mead and White were rounding off their labours on the Vanderbilt building on Nassau and Beekman Streets, a slab-sided affair whose agents vociferously credited with "electric light, steam heating, and Otis elevators." The Rothschild Building on Leonard Street and West Broadway retaliated with "electric and gas lights, toilet rooms, filtered ice water, mail chutes, and offices which are light, airy and cheery."

The 2nd National Bank claimed to have been, since 1869 "the first bank of deposit to provide separate banking facilities for women," another banking firm announced that it was "connected by telephone" without disclosing with whom, whilst the New York Heat, Power and Light Company provided "electric light and power current, on all day and night, always ready for use."

A bitter war was raging between the manufacturers of flat-roofings and a hint that society had not entirely settled down was contained in the Advertisement of the Lloyd Plate Glass Insurance Company, whose cover included hazards due to "drunken men, cyclones, hailstones, explosions, careless clerks, runaway horses, pistol shots and causes unknown."

The Astor family had recently donated six bronze doors to Trinity Church, the valuer's charges for valuations up to \$25,000 were a measly \$10, and printers guaranteed that all their work "was done on fireproof premises". Lord and Taylor, then no more than a "dry goods establishment", were confined to modest premises on Grand Street and St. Patrick's Cathedral stood on the fringe of the built-up area, surrounded by modest brownstone houses.

Stay-at-homes could divert themselves at Proctor's Theatre, where the new Living Pictures were showing, and citizens anxious to get away from it all could embark for a health-giving trip to Boston by the Falls River Company's steamers, *Priscilla*, *Puritan*, *Pilgrim*, *Plymouth* and *Providence*, their rather forbidding names being mitigated by the fact that "each steamer has its own orchestra." Others in more difficult circumstances, such as marital or financial deep water, could be speedily conveyed to make a fresh start in Latin America by the Southern Pacific's "iron steamers, *El Sud*, *El Paso*, *El Monte*, *El Rio*, *El Dorado* or *El Norte*."

ERIC BROWN

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\* To preserve freedom of criticism these editors, as leaders in their respective fields, remain anonymous.

## The Editors

### NO MIRACLE IN MILAN

AS readers will know, the theme of the 1960 *Triennale di Milano* will be "The Home and the School." Both are subjects in which British architects may well take pride, subjects on which Britain has much to tell the rest of the world. Yet, once again, barring a last-minute miracle, Britain will not be represented at the *Triennale*, and this time the blow to British design is more bitter than before. An energetic committee under the aegis of CoID had gone far in canvassing official support, and collateral support from industry; enthusiasm had been generated at high government levels, and—for once—there seemed fair promise that something would be done. Then, as on every previous occasion, the Board of Trade and the Foreign Office returned their usual dusty answer, and the whole project has collapsed.

The *Triennale* is still the most important international event in the fields of architecture and design; the failure of BoT and FO to sponsor an exhibit there on the Home and School theme (at a fraction the cost of the new permanent BoT pavilion for the Rand Show in Johannesburg) is an insult to a devoted body of men who have done much for Britain's good name. The time for a change of heart is running short, and the coming election will make it difficult to bring political pressure to bear. But something must be done—perhaps this is the occasion for the intelligent Sunday papers and commercial television to give substantial proof of their newfound interest in architecture and design.

### BRS HITS BACK

About a year ago the Select Committee on Estimates published a report on their enquiry on BRS in which they upbraided BRS for having failed to get enough money back from those who obtain advantages from building research. The Select Committee then went on to suggest that BRS should strike more and better bargains with those private interests who seek BRS collaboration. At the time we protested against this attitude, pointing out that it misinterprets the nature and purpose of BRS which are essentially those of a body which makes facts about building available to all.

Referring to the recommendations of the Select Committee in their latest report\* the Building Research Board say "These

\* *Building Research* 1958. HMSO 5s. 6d. See also page 231.

recommendations seem to us to overlook the basic purpose of the Station's work, the advancement of the science and technology of building for the nation at large. The immediate benefits are often widely spread to building owners or users, and not last to the public authorities who are the clients for about half the output of the industry" and again "the prime criterion for the selection of research projects must be the need for the knowledge that they are designed to provide for the benefit of future construction, rather than the prospects of external financial support."

This is an important principle to establish and it is well that it has been established so roundly by the Building Research Board itself. At the same time it is sad to notice that the bullying attitude of the Select Committee has not been without effect. For the first time in many years the report bears no reference to the insufficient sums made available for building research, yet the disparity between the funds available and the job in hand is as great as ever. The real trouble with building research is not that it is mis-directed, but that there is not enough of it.



#### REVERSING THE FLOW

The LCC's Planning Division will never be quite the same again. Percy Johnson-Marshall has left it, after eleven years as Group Planning Officer (for reconstruction areas, north-east London and City), to go to Edinburgh. This means that Professor Robert Matthew will have an impressive team to lead in the University Department of Architecture. In addition to Mr. Johnson-Marshall, who will handle a plan-

ning course, there are two other enterprising men—Eric Stevenson who left the Department of Health to lead the housing research project, and M. F. Clark, who has come up from Reading to take over landscape. Edinburgh's University could well become the first to put "integration" into practice.

#### THINK OF A NUMBER

A colleague who is preparing next week's issue on traffic was interested to read the Conservative manifesto promise that "over the next five years the road programme will be twice as big as over the last five years." Before passing this news on to you under the heading "Road Programme Doubled" I rang up the Conservative Central Office and got some revealing figures. This year's expenditure will be £64m and next year's £75m. The average for the past five years was only £29m. This means that the expenditure for the next five years will be £58m—or a little less than it is now and much less than next year's figure. In fact the Conservative slogan might be "the more we double it, the more nearly it remains the same."

#### THEY'RE ALL JACKED RIGHT

Slab-lifting has now reached Birmingham, a mere ten years since it hit Texas. Architects will remember the description of this technique in the AJ's New Year number for 1951. But for the benefit of the more cynical,

such as builders and engineers, let me remind readers that the idea is to save shuttering, labour, time and money (at the cost of a little extra steel for flat slabs). Concrete floor and roof slabs are poured on the ground and then jacked into position.

\*

In America slab after slab (often very large) have soared into position on synchronized jacks, and I've only heard of a couple of major hitches in the construction of hundreds of buildings. The French, on the other hand, poured five slabs with building paper between and couldn't (so rumour says) get them apart. So their experimental building starts three feet above ground level. Perhaps M. Marini, of French building research, will one day remove the veil of secrecy over this affair. I hope there won't be a veil needed at Birmingham, where the first two trial slabs have been erected with US jacks. ASTRAGAL was asked to see the third one (70 ft. by 30 ft.) lifted into place. But the invitation was cancelled. Watch this space for further developments.

#### WHOLLY MODERN

Liverpool Catholic Cathedral is in the news again. The church authorities have wisely decided to hold a competition for a modern building (neither they nor, of course, the assessors, Basil Spence and David Stokes want an imitative structure) and this will go above or beside Lutyens' unfinished cathedral which was piped at the crypt. The cost—£1m, as at Coventry—is a feasible sum to raise, and a reasonable sum compared with the £15m. that Lutyens's building would cost today or the £5m. for Adrian Scott's cheaper version, which was commissioned when the first project was abandoned.

\*

Incidentally, an announcement of a competition for flats near Birmingham will be made next month. The assessor will be Eric Lyons, so there is some point in you intelligent and progressive boys having a go.

#### ALLIED IRONFOUNDERS

Two hundred and fifty years ago coke was first used successfully to make iron in a blast furnace at Coalbrookdale, where the first iron bridge and the first locomotive were manufactured. This historic event has been celebrated by the opening of a museum in the



works by Allied Ironfounders. There are some fascinating exhibits. Some of the cast-iron work is almost as fine as filigree, and there are examples of the old cooking pots—one of them missionary size—which used to be the works' staple products. But the setting is disappointing: the plain brick walls of an old pattern shop have been covered with imitation, random-stone wallpaper.

\*

Why didn't Allied Ironfounders use an architect or exhibition designer? If they had they would not have made the second mistake of giving a municipal-garden background to the furnace used by both the Abraham Darbys. The site of this furnace, which has been joined by other relics including cast-iron points and a fountain cast for the 1851 exhibition, is flanked by a curving railway viaduct and lofty masses of chunky old brick and stonework—an absolute gift to a designer. But this home of cast-iron now boasts a concrete post and wire fence and a sad set of memorial gates that are neither traditional nor modern in spirit. The fountain, seats and railings have been painted bright green! Perhaps the generosity of Allied Ironfounders and the enthusiasm of their subsidiary, The Coalbrookdale Co. Ltd., could be extended a bit further. It would still be possible to give this museum a setting as rugged as the early industrialists themselves.

\*

Despite these criticisms Coalbrookdale is very much a "must" for the intelligent visitor to the Midlands.

#### GOLDEN JUBILEE

Don't miss the current exhibition at the Tea Centre, Lower Regent Street, which shows fifty years of furniture-making by the firm of Gordon Russell Ltd. You will be reminded of the bridge this firm has built between craftsmanship and machine production. And you will see how the quality of craft-made furniture *can* be transferred—though it rarely is—to mass-production workshops.

#### WHEN IN EUSTON

Will Euston's Doric triumphal arch really be demolished when the station is reconstructed? The rumoured rebuilding operations would offer a good chance of paying our respects to what is possibly the best piece of Doric in



*Visitors to Coalbrookdale can now see not only Abraham Darby's historic iron furnace (top) where coke was first successfully used 250 years ago for making iron, but also a new museum (above). The furnace is approached by some new cast-iron gates and guarded by a concrete post and wire-mesh fence (left) on which ASTRAGAL comments.*



England—one of the grandest monuments of the railway age—which is now slighted by an ill-sited hotel that obstructs views of it. Rebuilding at Euston should do for the arch what Rome station does for its bit of Roman wall—make it a foil for the new work, and give it due honour as an ancient monument. It should be rebuilt, if it is necessary to move it, so that it straddles pedestrian ways, and passengers can pause—without getting a taxi in the small of the back—to contemplate its taller-than-Parthenon columns.

\*

Rumour persists that King's Cross is also due for reconstruction. There is nothing here to preserve separately—not even a façade. The design is all of a piece and will have to go in its entirety—or be preserved entirely—if it is not to become a mess like Cannon Street.

#### COVENTRY REUNION

Coventry architectural department celebrated two auspicious events last weekend: first, its move to brand new offices (a model of their kind, by the way, and very interesting in their attempt to make closer contact with the public in architectural terms), and second, the twentieth anniversary of its founding by Donald Gibson in 1939.

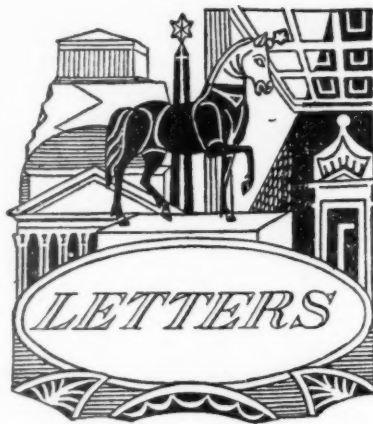
\*

Donald Gibson himself was, unfortunately, travelling abroad on one of his War Office missions and couldn't come. His absence could be regarded as a symbol of the influence that former members of the department now have in other parts of the country. Arthur Ling mentioned during the evening that the staff grew from the original 23 to 216 in 1957. It has now slipped back to 156 (Coventry's city fathers have been inhibited in the last couple of years by credit restrictions). Between 1950 and 1959 some 300 members of the department have come and gone.

\*

Several members of the original staff did turn out, however, including the designers of the very first central area scheme—Peter Burgoyne, Ken Lycett, Tom Pinion, B. T. Powell and Percy Johnson-Marshall.

ASTRAGAL



*A. W. Hendry*

*Professor of Building Science, Liverpool University.*

*Peter Jay, M.A.*

*H. L. Gloag, A.R.I.B.A.*

*H. P. Trenton, A.R.I.B.A.*

*G. R. Lambert,*

*Adhesives and Sealers Division, Minnesota Mining and Manufacturing Co. Ltd.*

*W. H. Stevens, A.R.C.Sc., F.P.I.,  
F.I.R.I., F.R.I.C.*

*Kenneth Appleby*

*John Gloag*

#### The Engineers

SIR: I have read with interest Mr. D. A. Howells' comments on the professional institutions in engineering (AJ, 27th August, 1959). Although the proliferation of specialized organizations is in some ways disconcerting there can be no doubt that these bodies have arisen to meet a need which the older institutions have for one reason or another been unable to satisfy. It must also be recognized that "engineering" is a very diverse activity and in consequence it does not form the basis for such a highly unified profession as, say, architecture or medicine.

Mr. Howells' comment on university education is not very well founded. No university in this country has so far established a faculty of building. On the other hand, there is, and has been for many years, a Department of Building in the Faculty of Technology of the University of Manchester and two years ago there was established in the Faculty of Engineering of the University of Liverpool a Department of Building Science. In both cases there is full collaboration with the various engineering departments: although the departments at Manchester and Liverpool differ in certain respects it is safe to say that existing or projected courses in both places provide for a common grounding in mechanics and other basic subjects with engineering students. There is no less need for appropriately qualified graduates in building, structural and heating and ventilating engineering than, for example, in electrical engineering,

and the universities are beginning to recognize and to meet this need. It is inevitable that this should lead to the introduction of new, specialized degrees, but it is a mistake to assume that the students taking these degrees are any more segregated from students in the "traditional" engineering schools than the latter students are already split off from one another.

If the development in the universities of scientific studies relating to building is making some engineers feel uneasy, I believe that many more people connected with building are apt to feel even more uneasy by the continued absence of such studies from the British universities. Another very important aspect of the matter is the need to find means of bridging the gap which has developed between architects and those engineers who are associated with building. These include engineers concerned with construction, structural design, heating, ventilating, lighting, etc. The common ground between these professions is undoubtedly the scientific study of all aspects of building and buildings and if these studies are, apart from their intrinsic value, the means of promoting unity of purpose and mutual understanding between the professions concerned, surely they are to be encouraged rather than deprecated.

Liverpool

A. W. HENDRY

#### Churchill College

SIR: It is very difficult for an ex-Oxford scientist like myself to understand what Mr. Boyne means in wishing Churchill College to be designed according to "Scientific Principles."

Some work has been done on the psychological influence of the physical environment, but so far as I know nobody has yet produced any results that can be of real use in designing a building, other than the well-known work on lighting, heating and ventilation. Even in the latter cases, the Hawthorne experiments showed that the effects of alterations in the physical environment are trivial in relation to the effect of the psychological environment.

Since Cambridge University wishes to increase its complement of scientists, and requires a new college for the purpose, it seems only reasonable to build it on the same basis as those that already exist. In so far as the form of the building does affect the nature of the inhabitants, we may at least be assured that the residents of Churchill College will be of the same kind as the residents of the other colleges, and will be the sort of people with whom the university is adapted to deal.

It is conceivable that some other, and possibly better, sort of scientist might flourish in a different type of building, but the university would doubtless maintain that they want more of the sort they have already. If there is a demand for another type, let other universities concentrate on producing them.

I do not know whether Mr. Boyne will allow this argument to be "Scientific," but it does seem a perfectly legitimate decision for the university to take.

PETER JAY

London

## Colour Ranges

SIR: May I add a comment on your leader of August 27 on "A Standard Range of Colours"? I believe it has still to be fully recognized that unless we as a profession commit ourselves to a limited choice of colours, we cannot hope to make the proper impact on industries geared up to bulk production. BS 2660 is a success, but only in proportion to the support it is getting from the profession at large.

Now, as you say, the attempt is under way to extend co-ordination to other coloured products. In preparation, my colleague at BRS, Derek Poole, and I surveyed about 150 existing ranges. We found that in many cases the ranges for groups of similar products (such as linoleums and ceramic tiles) closely resembled each other in number and kinds of colours, and that in the case of bathroom equipment there is already voluntary co-ordination on eight colours. In short, competition between firms in terms of colour turned out to be largely a myth, and prospects of co-ordination with BS 2660 colours correspondingly good.

H. L. GLOAG

Garston

## National Gallery Competition

SIR: You kindly published (AJ, August 27, p. 93) part of my design entered for the above competition, but have unfortunately overlooked one main point of the design. You state "This design was also one of the few which provides no link with the existing galleries, a feature which would seem, as the assessors point out, illogical." The point which gives access into the existing National Gallery is described in my report. I agree it would have been illogical to have built the extension right up against the existing building without such an access.

H. P. TRENTON

London

## Thiokol Sealers

SIR: We have read in the JOURNAL for August 20 the report on the symposium held at the RIBA entitled "Aluminium in Building" on pages 46 to 48. The remarks made by G. R. Lambert (page 47) on Thiokol sealers have been reported out of context and as such could be misleading to architects. We would, therefore, like to take this opportunity of clarifying the position.

Thiokol is a polysulphide synthetic rubber manufactured by the Thiokol Chemical Corporation of the USA. The word "Thiokol" being a registered trade mark of that company, and not as you attribute to the Minnesota Mining & Manufacturing Company Ltd. Thiokol is the base raw material used in the formulating of sealers by various sealant manufacturers. You can, therefore, have products using Thiokol as the base material varying considerably in their performance. The architect could specify a product based on Thiokol whose physical characteristics are entirely unrelated to a Thiokol based product of another manufacturer.

For a polysulphide based sealer to be really effective it must be properly mixed and properly applied to joints that have been thoroughly prepared. These "musts" however are of no avail if the polysulphide based material has not been properly compounded by the sealant manufacturer.

The design of the joint is also very important. The anticipated expansion in the joint should be calculated at the design stage. Joint sizes should allow for a minimum of  $\frac{1}{8}$  in. of sealant at all places. If for example design calls for  $\frac{1}{8}$  in. layer of sealant in joints where maximum calculated movement would be  $\frac{1}{8}$  in., the sealant would be subject to 100 per cent elongation. The same thickness of sealant in a joint of calculated movement of  $\frac{1}{8}$  in. would then be subject to much higher requirements of 400 per cent elongation. The joint should not taper to less than  $\frac{1}{8}$  in. because the extension which the sealant is capable of withstanding depends upon the thickness and depth in the joints, and sealants in very thin sections may be stretched in service beyond their capabilities.

We have an approved contractor service for the application of our polysulphide based sealer thus ensuring correct application to well prepared joints.

These are the points we were making at the symposium. How can an architect decide "which product?" Since Polysulphide based sealants supplied by various sealant manufacturers vary in their performance the architect should request a specification from the sealant manufacturer covering the physical characteristics of the sealer. Also before specification a "mock up" on site of the proposed application is advantageous where practicable.

Mr. Mack of the BRS conducted extended tests on polysulphide products and found that they were suspect in respect of their adhesion behind glass. Our research laboratory tests confirmed these results. The possible failure being due to ultra violet energy of the wavelengths and magnitude transmitted by glass exposed to the sun.

We would point out, however, that the sealing of buildings normally involves an external application and a properly compounded polysulphide sealer would be entirely satisfactory for this type of application. The use of a liquid type of sealer as a bedding seal (behind the glass) is generally not a practical application on site. A preformed ribbon sealer (gasket type) is normally used as a bedding seal with a polysulphide based product as the external seal.

G. R. LAMBERT

Adhesive & Sealers Division  
Minnesota Mining & Manufacturing Co. Ltd.

SIR: My attention has been called to a report appearing in your issue of August 20, page 47, of a discussion referring to a material designated Thiokol. As Technical Consultant in the UK to the Thiokol Chemical Corporation of Trenton 7, New Jersey, USA, I wish to point out that the word "Thiokol" is a registered trade name and it is not the name of a material. My clients manufacture numerous chemicals and polymers and it is believed that the discus-

sion reported was referring to building sealants manufactured from Thiokol's liquid polysulphides.

It is only necessary to point out that such sealants are very widely and extensively used over the whole of the USA and in other parts of the world, where the climate very often is much more severe than in this country. The wide experience resulting has shown that properly formulated polysulphide sealants are extremely satisfactory under widely varying conditions of application and outdoor exposure

W. H. STEVENS

Bromley

## Job for the RIBA

SIR: The Northern Architectural Association must be congratulated on their forceful, and we hope effective, intervention in the Newcastle roundabout dispute. But it is perhaps arguable that had the NAA given the same forceful lead earlier and more often in matters of this kind a proposal so squalid and banal would never have been contemplated in the first place.

A scheme such as the City Engineer's could only be presented to the representatives of a society which accepts as normal a world of trolley wires, vehicular murder, diesel fumes, continual noise and crawling suburban blight. A world, alas, rarely disturbed by forceful architectural criticism.

Perhaps instead of the present system of occasional London exhibitions of Swedish housing (what is the RIBA anyway, a new coffee place?) we need a more regular lambasting of specific local eyesores, a task to which the allied societies seem ideally suited, with the object not merely of making the public aware of the generalities of Urban Renewal, but of how *their* town and *their* street could look if they really wanted.

KENNETH APPLEBY

Newcastle

## Nonsuch Palace

SIR: With great deference to ASTRAGAL, the corner towers of Nonsuch Palace were not round but octagonal, and splayed outwards as they rose above the roof line of the main building. They are clearly depicted on the drawing made by Joris Hoefnagel in 1568. Evelyn states that the building was largely a timber structure, faced with "scales of slate," which "seemed to be carved in the wood and painted, the slate fastened on the timber in pretty figures, that has, like a coat of armour, preserved it from rotting" (*Diary*, January 3, 1665-66). Pepys observed that "most of the house is covered, I mean the post, and quarters in the walls, with lead, and gilded" (*Diary* September 21, 1665). These descriptions suggest that the palace was more substantial than a "lath-and-plaster affair." Its destruction by one of Charles II's rapacious trollops was a disaster. Everybody who has an interest in architectural history would welcome the publication of the Nonsuch Excavation Committee's findings about this fantastic and quite un-English building.

JOHN GLOAG

London



## COMPETITION

### Liverpool Cathedral

A competition for new designs for the Roman Catholic Metropolitan Cathedral of Christ the King, Liverpool, is announced. The premiums will be £5,000, £3,000 and £2,000, and the assessors are the Most Reverend J. C. Heenan, the Archbishop of Liverpool, Basil Spence and David Stokes. The cost of the work will be £1 million. The conditions, which will be ready early in October, may be obtained on application to the Competition Secretary, Liverpool Metropolitan Cathedral Committee, 152, Brownlow Hill, Liverpool, 3 (deposit £2 2s. 0d.). The last day for questions is December 15, 1959, and the last day for submitting designs is August 3, 1960, at 4 p.m. The competition is open to British subjects, Commonwealth citizens or citizens of Eire, wherever resident, who are corporate members of the RIBA or the Royal Institute of Architects in Ireland, or who are on the statutory register of ARCUK.

## NORWICH

### A Road Plan

Under the seemingly innocuous title of the "Norwich Road Traffic Report—1959" Norwich's City Engineer has launched his proposals for a five-million-pound road programme which, if carried out, may go some way towards solving the traffic problem, but will quite certainly "tear the guts out of the City" (to quote one Councillor) and take it several steps further on the road to Subtopia—standardized and characterless.

Starting on the wrong foot, the Report was commissioned by the Executive Committee (Highways) not the Town Planning Committee, and its terms of reference confined it to the traffic problem in isolation. Secondly, the City Architect was excluded from consultation, and at no stage was any architectural advice taken.

The Report contains a mass of statistics, based on traffic surveys and car parking counts, but revealing nothing that would astonish any observant citizen. From these the Engineer seems to have worked on the principle "There's a lot of traffic in this

street—let's widen it," and so we are faced with the prospect of Pitt Street, Colegate, Coslany Street, St. Andrew's, Pottergate, Exchange Street, Theatre Street, St. Stephen's, Rose Lane and Ber Street all being widened. Yet at the same time the Report advocates an Inner Link Road around the Inner City—an idea long canvassed by the Norwich Society and endorsed by James and Pierce in their 1945 City of Norwich Plan—with the presumed object of guiding traffic round, rather than through, the central area!

Even this proposal cannot be endorsed wholeheartedly as it stands. The obvious line is immediately outside the medieval walls, where there are existing roads for most of the way and it only needs the demolition of some dreary terraces to reveal what is left of the Walls and make room for an 80-ft. roadway at one stroke. The Engineer's road follows the Walls for a good four-fifths of their circuit, but then on the north swings in to plough brutally through the old Coslany quarter and hack Magdalen Street in two. This part of the proposals is likely to meet with particularly stubborn opposition.

Thus it looks as if Norwich is threatened with a Plan that will make the worst of all possible worlds and ensure the maximum of damage to the minimum of effect. However, the Norwich Society has put up an alternative scheme. It proposes quite simply that all priority should be given to an Inner Ring Road following the line of the Walls throughout, and accompanied by generous car parks, and that until this is done the old Inner City should be left untouched. It anticipates that the traffic situation will probably be so radically changed as to make most of the proposed street widenings completely unnecessary, and may indeed enable extensive pedestrianization in key areas such as the Market Place and Tombland.

A lop-sided traffic roundabout with its central island 200 ft. across and four 70-ft. streets coming into it with all their appropriate radii and vision splays, lighting columns and road signs is a fearsome enough object out in the suburbs. To plant one in the middle of a medieval city whose present streets are of the order of 15 to 30 ft. wide and whose corners are right-angles is surely tantamount to a crime against urbanity—yet that is one item seriously proposed. Let us hope that second thoughts will prevail.

MICHAEL GOOCH

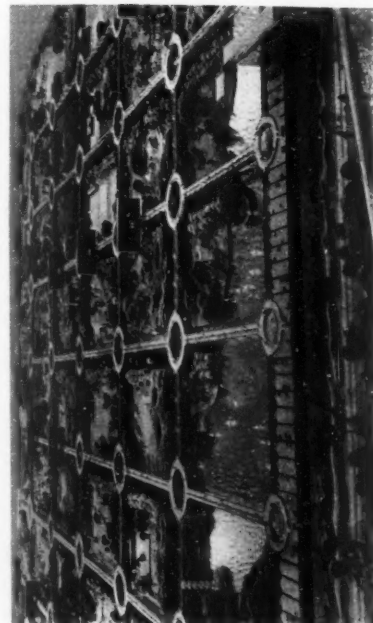
## LCC

### Crystal Palace

Sir Isaac Hayward, Leader of the LCC, has announced that with the easing of restrictions on capital expenditure of local authorities it is hoped that it may be possible to go ahead with the National Youth and Sports Centre at the Crystal Palace. Tenders could be invited immediately the Council's approval was given and building would take about three years. The plan was approved in principle in 1954, and working drawings have been prepared by the LCC Architect's Department. The capital cost is estimated at just over £2 million.

## ROOF ROADS AT MOTOPIA, MIDDLESEX

Motopia, the fourth project announced by Pilkington's Glass Age Development Committee, is the brainchild of G. A. Jellicoe, and has been designed by his firm, Jellicoe, Ballantyne, and Coleridge, with Miss J. Colewill as assistant. The idea of putting roads on the roofs is not new (Le Corbusier used it in his plan for Algiers, and Max Lock did so in his plan for Amman) but in Motopia the idea is applied to an entire town of 30,000 people. The five-storey terraces 50 ft. high are laid out on a 1,200 ft. by 800 ft. grid (left) with dual carriageways, each 17 ft. wide on the roof, and linked by roundabouts at the junctions. The residential terraces consist of flats and maisonnettes on ground and three floors, with an access road and car park on the fourth. Motor traffic enters the town at a single point on a flyover (below) at the level (30 ft.) of the car park for the shopping centre, and then rises a further 20 ft. to roof level. At each roundabout there are up and down ramps to the fourth floor access road. While one may question whether the road system and particularly







the roundabouts is capable of handling the enormous traffic generated in a town of middle-class commuters with one car to every house, Mr. Jellicoe's idea has the great merit of completely freeing the ground for pedestrian movement in the open or under covered arcades. His landscaping is characteristically inventive, and he provides not only a bus service on the roof but a water bus service on the lakes in the old gravel pits, linked by canals, which cover half the surface area of

the town. Eight 15-storey blocks of flats bridge the terraces. The shopping centre consists of an enclosed street of two-storeys with rooftop parking, and moving walkways for pedestrians. There is a 20-storey administrative block. Mr. Jellicoe considers that insulation can reduce the noise and vibration from rooftop traffic to acceptable levels. The cost is estimated at £60 million and rentals at £100 per head would yield a return of about 7 per cent.

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*Paul Brenikov contributes this report of the TPI Summer School at Southampton, where the subjects discussed included development control, the location of power lines and power stations, landscape control, and the achievements and failures of British planning since the war.*

## TPI SUMMER SCHOOL

### *Planners' Mixed Feelings on Development Control*

The Summer School held annually at one of the Universities, under the auspices of the Town Planning Institute, is the principal meeting of the year for professional planners. It is an important event for it provides the profession with a valuable means of reviewing some of the main planning problems of the day and considering what should be done towards solving them. At this year's School in the University of Southampton a number of major problems were defined and discussed. Possible solutions to them, however, were by no means so clear cut.

The first of these was touched on by Lord Silkin in his opening address to the school when he referred to the fall-off of public interest in planning. This is now at a very low ebb compared with what it was soon after the war. In Lord Silkin's view, much of this present apathy and even outright hostility was the result of "somewhat rigid and sometimes irrational" administrative methods. He believed that there was too much unnecessary interference with normal development, particularly in the interests of "amenity" (a term he disliked, since it was vague and capable of too many interpretations) and too much rigidity in the way in which development plan provisions were interpreted.

Some delegates were surprised to hear the author of the 1947 Act express views of this kind. Others, who felt that his criticisms were justified, were disappointed in some of the remedies proposed. If, as Lord Silkin suggested, all cases were to be considered strictly on their merits, and if where there was a doubt the benefit was to be exercised always in the applicant's favour, it was difficult to see the basis for an effective policy of development control. Certainly such a policy would require very much greater care in interpretation than is possible at the present time. Indeed the risk of serious failure would seem to be so great that it was not surprising to hear Lord Silkin admit that his view was "not entirely accepted" by the administrators. The vexed question of "amenity" reappeared in the first of the main papers, "The Impact of the Power Industry on Town and Country Planning," delivered by Donald Clark, Chief Planning Engineer to the Central Electricity Generating Board. Mr. Clark spoke from the point of view of an expert in a field outside planning, whose work nevertheless was directly involved in matters of land use since it included the siting of major power stations and high-tension grid lines.

As a potential land user Mr. Clark presented his case with considerable skill.

Starting from the central fact of a constantly increasing national demand for electric power, he outlined the plans his Board were making to meet future needs. These comprised a series of new generating stations planned on a regional basis and linked by improved grid lines. For technical and economic reasons these new generating stations will be very large and although few in number the difficulty of finding sites suitable for them is considerable.

For example, a huge volume of cooling water—greater than the normal dry-weather flow of a British river—would be needed by a thermal station of the new type. The case of the nuclear power stations was even more difficult, for apart from technical considerations, stringent safety conditions had to be satisfied. In addition, the Board were now faced with further difficulties in that many of the sites selected for technical and economic reasons were strongly resisted on grounds of damage to amenity.

This raised the vital question—how far should the national interest in amenity be permitted to hamper the economic development of badly needed power supplies? And further, what value, in terms of hard cash, were we prepared to pay for this amenity interest? Mr. Clark maintained that until some practical method was devised for assessing the amenity value of a particular site no rational solution was possible. He was clearly of the opinion that the planning profession ought to give a lead in this respect and that the problem was urgent. The new generating stations, he said, must be built somewhere. If a policy of discriminating siting is confronted with indiscriminate opposition it must crumble away.

From the discussion on the paper it seemed that those present were not willing, as yet, to commit themselves to measuring amenity so exactly. It was, however, suggested that the Board should be banned completely, even from prospecting for sites in certain areas. To this Mr. Clark replied that it would greatly simplify the Board's job if they could find someone in the Government willing to take on the responsibility for saying that certain areas were completely out of the question.

Although the delegates were unable to offer the type of yardstick Mr. Clark required, one of the subsequent speakers—Lt.-Col. Haythornthwaite of the Peak Park Planning Board—was certainly prepared to do so, at least as regards development in rural areas. In his paper on "The Control of Architectural and Landscape Design" he developed his idea of a Landscape Code as a

basis for planning control.

The Code itself would be based on the "colour-form" of the existing landscape and it would be the responsibility of the planning officer, in conjunction with an advisory panel of architects, to ensure that any significant addition to the landscape did not disturb the natural harmony of "colour-forms" already there. Special attention would be paid to materials, site planning, building silhouettes and the development of local traditions in building design. Where the natural harmony of the landscape had already been destroyed the planning officer and his advisers should establish a new standard—if possible based on a previous local tradition.

Lt.-Col. Haythornthwaite's main objective in establishing this form of control was not so much to create beauty but rather to establish an environment in which natural beauty could survive and develop. The code, he believed, could be looked on in the same light as the Public Health Acts and enforced just as rigorously—particularly against economic pressure.

His proposals were received with mixed feelings. While some admired the high standard he sought to maintain, others thought his principles were too general for practical day-to-day control work or objected to the severe limit the system would seem to impose both on the value of contrast in the landscape or on the use of new, non-traditional materials. It was feared that, if misapplied, the code might well produce bogus or watered-down versions of an outmoded regional tradition. Asked if he felt such a system could be applied in urban areas, Col. Haythornthwaite replied that this could be done, but the objective would then be to establish and maintain a characteristic and coherent urban style for the town as a whole.

In the last of the main papers J. W. R. Adams, County Planning Officer of Kent, set out to review some of the achievements and failures in British planning since the war. A short review of so large a field must of necessity be highly selective and it was interesting to see which particular items Mr. Adams, as a leading member of the profession, chose to comment upon. In the legal field he felt that all the powers planners needed to achieve their legitimate objectives were now available to them. It remained for them to re-examine and perhaps re-define the objectives and limitations of planning in the light of these extensive powers.

He went on to discuss the need for an effective regional planning system and deplored the lack of co-ordination which seemed to persist between different departments of central government. The remedy he proposed for the present confusion was the setting up of a new Ministry of Development and Conservation whose function would be the co-ordination of the work of the Board of Trade, the Ministry of Agriculture, the Forestry Commission and the Ministry of Transport and Civil Aviation. Turning then to specific examples of success and failure Mr. Adams described the green belt policy and the New Towns as outstand-

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ing examples of real achievement in planning. Surprisingly enough he was also willing to concede "a certain measure of success" to the distribution of industry policy. He was less sure, however, of the progress made towards better standards in design. As serious failures he instanced the compensation-betterment tangle, the Town Development Act and the lack of any coherent policy for developing communications.

Apart from the main papers, the interest of many professional planners was centred on the discussion groups devoted to more technical matters. This year's topics included the education of the planner, methods of accommodating the motor car in residential areas and a description of a new technique for measuring housing needs devised by the Ministry of Housing and Local Government, employing the "family unit" as a yardstick. One item for discussion raised a problem which is likely to be of growing importance in the future. It appears that in many areas the reserve of land set aside in the development plans against long-term future needs is already under considerable pressure. Some, in fact, is being developed now and there seems little doubt that these reserves will be used up much more quickly than was anticipated.

What will happen when these are gone is a vital question. Will developers pass over the green belt to other sites beyond it? Will they return to the town itself and re-develop on cleared sites in the decayed central area? Or will the whole green-belt policy, which now seems so secure, collapse under the heavy pressure to find land for desirable residences? At the moment the future seems very obscure. What is certain is that the value of such land is rising rapidly and that the pressure is growing fast. A definite policy will have to be worked out, and we need to be thinking about it now.

## DIARY

*Building Matters.* BBC Network 3. 7 p.m.  
SEPTEMBER 29

*Installation of President of the Institute of Structural Engineers and Presidential Address.* At 11, Upper Belgrave Street, London, S.W.1. 6 p.m.

OCTOBER 1

*The Motor Car in Urban Areas.* Bristol and Somerset Society of Architects' Symposium at Bristol University. 10 a.m.

OCTOBER 1

*New Towns Exhibition.* Organized by the Town and Country Planning Association, in the Main Gallery of the Royal Academy, Burlington House, Piccadilly, W.1.

OCTOBER 2 TO 17

*First International Caravan Exhibition.* At Earls Court.

UNTIL OCTOBER 3

*Design in Lighting.* Display at Design Centre, 28, Haymarket, S.W.1.

UNTIL NOVEMBER 7

SFB File No.	A
UDC No.	025.4

*Last week we published an article by Dargan Bullivant describing a new international system of classification for building. We believe in this sufficiently to want to give it a fair trial and, as from the issue of October 8, we are proposing to print the symbols of this new system alongside those of our own established systems on Information Sheets, Working Details, Buildings Illustrated and Information Centre. A description of the system and instructions on how to use it were, of course, published in last week's issue; this week we take readers through the motions of classifying a small number of specific examples.*

## THE NEW CLASSIFICATION

### A Plain Man's Guide

#### The objects of the system

Before taking the specific examples it would be as well to rehearse what we believe to be the objectives of the system, for it is only in the light of these objectives that we can hope to understand the system as a whole. These objectives are two. First, to organize the architect's information so that the things which are thought of together are filed together. Second, to limit the digits used to as small a number as possible so that they can be easily memorized.

In order to obtain these objectives certain sacrifices have to be made, and it is important that these sacrifices should be understood so that too much is not expected of the system.

In order to gain the first objective, architect classifiers have been given three aspects to think about: the aspect of function (can the object be ascribed with certainty to any one functional element in the building?) represented by a number in brackets, the aspect of trade or operational sequence represented by a capital letter, and the aspect of material represented by a lower case letter followed, if necessary, by a numeral without brackets. The system is intended to exert a certain influence on those who use it (i.e., get them thinking the right way), therefore it is suggested that users should first try very hard to allocate their object to a functional element classification and that they should only proceed to the other two when they have either found to which functional element the object belongs or have convinced themselves that it cannot with certainty be allocated to any one element. There is a slight confusion here in that "functional element" as understood here is not quite the same in detail as the "functional element" used in cost analysis, though the same idea lies behind both uses. The principle to go on is the principle of exclusion. If the object to be classified can be used in more than one

element (e.g., rolled steel sections) then you must normally assume that it cannot carry a functional element symbol.

Though in theory there is one right classification and one only for each object, in practice it is always open to users to manipulate the system in their own way. Thus, if you don't think in terms of functional elements, it is always open to you to ignore this aspect and to recognize only the trade and materials aspects. The objective of the system is to be a convenience: therefore you may use it in the most convenient way.

The second objective of the system is simplicity (though you might not think this when you first come across it). In place of the unlimited notations of UDC there are only two alphabets (one capitals, one lower case) and two runs of numerals from (10) to (99) in brackets and from 1-9 without brackets. This tremendous virtue of simplicity bears with it the inherent defect that there is not a special and exclusive symbol for everything. An example of this is "spaces and equipment for specialized buildings" (called in the tables (8) *spaces and fixtures and equipment* (special)). If the compilers had so wished, they could have broken this category down into types of building and types of space and types of equipment used in each, so that in the end they could produce a special symbol which would signify, for instance, a metronome store in a school of music (if such things exist); but to do so would be a great waste of time and instead they have given one digit (8) for the whole field and have left it to architects and others to devise any further notation which may suit their practice. Most of them will simply write a name under the (8) on the back of the file.

#### Examples

Perhaps the only way to illustrate the system is to take a number of examples and to go

through the process of reasoning required to give them their symbols.

Your best course when classifying is to turn first to the SfB tables on page 194 of last week's JOURNAL and when you think that you have "placed" your subject, check with the outline tables on pages 195-204. The first example is:

**BS 539: Part 1. Dimensions of drain fittings. Salt-glazed ware and glass (vitreous) enamelled salt-glazed fireclay.**

As this piece of literature relates to a product which is normally only used below ground it can safely be given a "functional" notation, i.e. (12) *Ditches, Ducts, Drainage, Soil and Rainwater, below ground*. Also it clearly belongs to the operation I, "Pipe work" and to the materials category g4 *Stoneware, Semi-Vitreous ware*. The classification therefore is: (2) Ig4.

The second example is:

**BS 2028: 1953 Precast Concrete Blocks.**

The first reaction of the classifier to this might well be that since this product is used in walls, therefore it is easily given a "functional element" symbol. There is, however, a difficulty, for precast concrete blocks could equally be used in (21) *walls, external walls* and in (22) *walls, internal, partitions* or even in (13) *retaining walls*. In other words they cannot have a functional element symbol at all. Fortunately they give no difficulty at the next stage for they are clearly F *Brickwork, Masonry, Bricks and Blocks*. When we come to materials, however, it is not quite so simple, for though they clearly come under f *concrete*, we cannot proceed to specify more closely, as the standard covers both f2 *cement concrete* and f4 *lightweight concrete*. The classification therefore is: FF.

The third example is:

**Approved Domestic Solid Fuel Appliances. Published by CUC and SSAFE.**

This booklet covers products ranging from inset open fires, to cookers, independent boilers and warm air central heating systems. Publications which are fairly comprehensive in their scope always create difficulties for the classifier. His immediate reaction here is to plump for functional element section (5) *Services Installations, Heating, Ventilation*. Unfortunately the booklet contains cookers and these belong under (7) *Spaces and Fixtures and Equipment: General* or, to be more precise (73) *kitchens*. Faced with this dilemma, the classifier will turn to the operational lists (i.e., SfB table II), but will get no help there, as the operations relate only to the construction of the building and not to servicing. Nor will he get any joy from the materials lists SfB table III, since the equipment under consideration is made of many different materials. What is he to do? The best answer is probably to file under (56) *Installations, Heating* and to place a cross reference at (73). An alternative might have been to tear the booklet in two, but as so often happens, the first page of "cookers" backs on to a page on hot water heaters. The long-term answer, of

course, is for the producers of information to print it in such a way that these dilemmas do not occur. Meanwhile, the classification is: (56).

The fourth example is:

**Floor Finishes for Factories.**

**Factory Building Series No. 3. HMSO.**

The first reaction, on reading a title like this is to assume that here is a title which requires a functional element heading, i.e., (43) *Finishes, Floor: General*. Insofar as this publication is, in fact, a good general reference on floors (i.e., on the basis that the requirements in factories are also met with elsewhere) this is certainly a possible choice. At the same time this is one of a series of booklets devoted to one building type and there is clearly a good case for putting them together under the building type. The classification therefore is (93), to which you may add the UDC classifica-

tion to read thus: (93)  
725.4

The fifth example is:

**Sulphate Attack on Brickwork.**

**BRS Digest No. 123.**

We have already mentioned that bricks as such evade the functional element category because they can be used in more elements than one. But an examination of this digest shows that sulphate attack on brickwork is in fact limited to external walls and that you would think of it only in this context. This, therefore, would give you (21) *Walls, External Walls*. You could not add either an operational or a materials heading because the digest is equally concerned with renderings. The correct classification, therefore, is: (21).

The sixth example is:

**A Handbook of Hardwoods.**

**Compiled by FPRL.**

Clearly this escapes both the functional element and the operational categories altogether, as it relates simply to a material as such. The first thought will be to give it a lower case letter, but here we come against one of the peculiarities of the system. The materials category (SfB table III) does not enjoy the same standing as the other two in that it is only used to *qualify* another symbol (i.e., a bracketed number or a capital letter). Therefore when you get a publication which deals with a material as a material, irrespective of where in the building it is used or in what trade, it is always headed with a capital D (for Materials) and followed by its appropriate lower case letter, which here is "i *Timber*." The correct classification therefore is: Di.

The seventh example is:

**Artificial Lighting Calculations: The Lumen Method.**

**AJ Information Sheets 34.B1, B2 and B3.**

A subject like this apparently evades all three categories. But an examination of the operational list shows that the first three capital letters of the alphabet have been set aside to processes which precede building proper and that the first of these, A, is

devoted to "Generalities, Engineering, Planning, Design." When, in this dual SfB/UDC System, a single digit is made to cover a wide field this is a sign that, if you want to differentiate between subjects, you must turn to UDC. Turning to the SfB/UDC tables you find that the UDC symbol for *Artificial Lighting, General* is 628:93. The correct classification, therefore, is:

A  
628:93

## DESIGN CENTRE

### Lighting Your Home

Our Specialist Editor for Lighting writes: Without doubt, of all the trade literature with which the architect is bombarded, light fittings catalogues arrive in the most bewildering profusion of flossy, lavishly produced brochures. There is good reason, therefore, to welcome this compact display of current and well-designed light fittings in the Design Centre which will be on view until November 7, even though the exhibition, with the title "Lighting your Home" is aimed at the general public rather than at the architect. In addition to the fittings themselves, by a wide field of designers and manufacturers, there are also two small demonstration interiors, and rules of thumb for good lighting displayed in print, as well as being soothingly enunciated by a disembodied female voice.

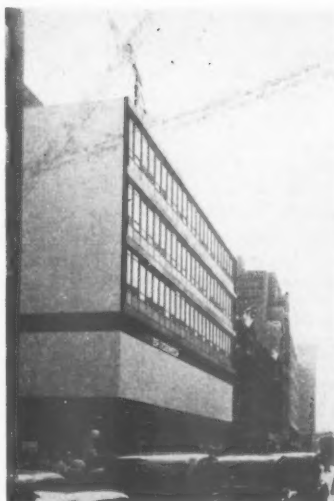
The origin of the generally low standard of light fitting design in the recent past almost certainly goes back to the very early days of domestic electricity, when the first ones were designed by people who had previously worked on gas brackets, and it seems to have taken just about 50 years to get rid of this dreadful malaise. Final recognition of the true characteristics of the light bulb, coupled with a better understanding of the needs of good and comfortable vision, lies behind the undoubted advance in design represented by this exhibition. A new and wider choice of materials has also had its effect, as has the advances since the war in the design of foreign fittings, particularly, of course, in Scandinavia. The influence of the latter has led, in some cases, to the most flagrant plagiarism, which is not, however, too much in evidence in the fittings chosen for display.

In the context of the Design Centre one could hardly expect otherwise, but the total effect of the exhibition is a slightly excessive emphasis on the purely decorative form of the fittings, less attention having been paid to their functional characteristics. It is particularly unfortunate that one of the demonstration interiors shows a fitting, obviously chosen for its pleasant shape, which is glaring because the naked bulb inside is clearly visible. Nevertheless, COID have done well in putting on this small exhibit, where the products from different manufacturers and designers can be seen side by side and compared. And, as with certain other fields of industrial design, it is encouraging to see that architects are taking a fair share of the honours.



## NEW PREMISES FOR PETER ROBINSON

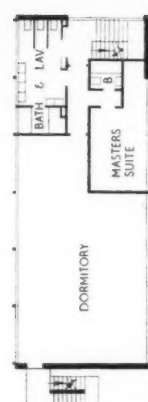
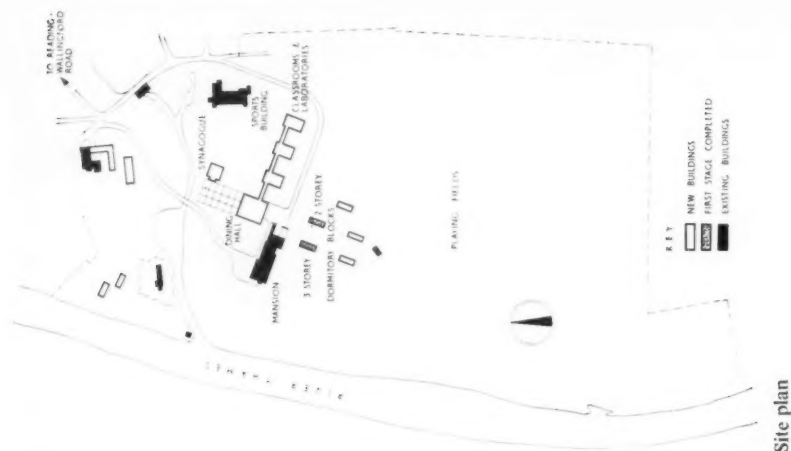
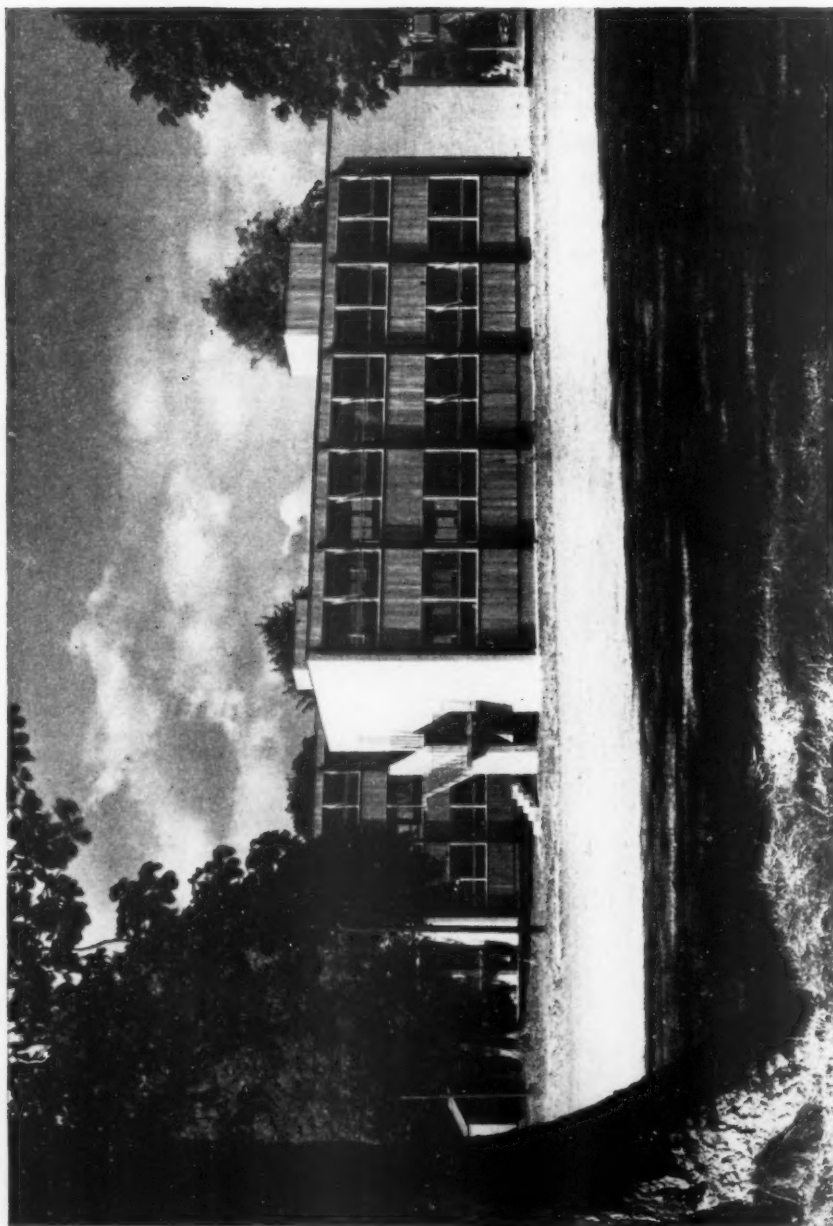
Recently completed, this building in the Strand designed by Denys Lasdun is the first in England to make large-scale use of bronze cladding. The upper three floors are clad entirely with pressed bronze sections, and a gutter is integrated with the cladding on each floor to minimize the accumulation of dirt and to help prevent bad weathering. Chief interest of the exterior elevation lies in the treatment of the first floor showroom. This floor forms the main shopping area and is given expression in the



reinforced-concrete screen wall clad with reconstructed Portland stone. It incorporates a continuous clerestory window, under which the fitting rooms are ranged. This arrangement allows for maximum flexibility internally for the continually changing arrangement of the displays. The top two floors are used as offices, leaving the three others and a basement for trading. These are reached through the main front air doors and are connected to each other by lifts and escalators. For once the side-street elevation has been given careful thought and not left as an unsightly mass of fletton bricks and drainpipes (top right). The architect was Denys Lasdun of Fry, Drew, Drake and Lasdun, the lettering by Edward Wright and the interior by DRU. General contractors, Higgs & Hill.



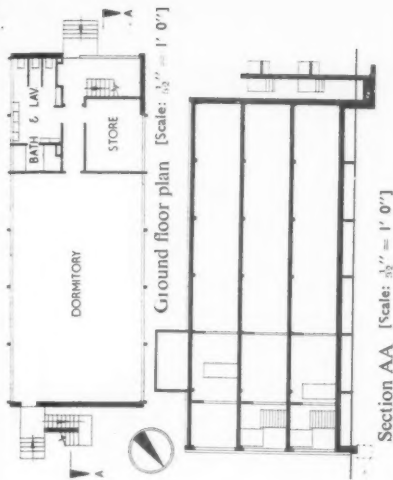




First and second floor plans

Carmel College, the only Orthodox Jewish public school in the country, lies in the grounds of Mongewell Park which is situated just below Wallingford Bridge on the Thames. Until recently the only classroom and dormitory accommodation has been a number of old temporary buildings used previously as a wartime hospital. The new dormitories (designed by Yorke, Rosenberg and Mardall; architect-in-charge, J. Snell) represent only the first part of an extensive rebuilding programme which has as its main aim the replacement of the existing temporary buildings and to provide for double the present number of pupils. This is a long-term project; the site plan shows the future development which will eventually be realised as circumstances permit. The immediate requirement was dormitory accommodation for 100 boys. It was decided to provide this by means of two small blocks for 60 and 40 boys of three and two storeys respectively. This solution allows further gradual expansion to be carried out unit by unit. Included in each block are washing facilities

to each floor and a suite comprising of a bed-sitting room, kitchenette and bathroom for the master in charge. The first part of the



## BRS

## Annual Report

BRS Annual Reports do not usually make news since they are always concerned with work which was completed almost a year previously. All that is most interesting and conclusive in them has therefore been hungrily snatched up long since by the compilers of BRS Digests. They still afford an excellent conspectus of how things are going in Building Research and in addition they contain many snatches of practical advice that have somehow slipped through the net of publication.

## Silicones

First among questions of practical detail in this year's report\* is a firm word of warning about silicones when used on masonry. Three-year tests on 5 per cent solutions have now been concluded and show results which on average show no advantage over a sample using no treatment at all. Tests on brickwork, which have been going on rather longer, are more favourable and on bricks silicones may be expected to give "a good measure of protection for upwards of five years." Whether this is thought to justify their high cost is, of course, another matter.

## Bricks and blocks

BRS have scored two potential successes in the field of bricks and blocks. The first concerns perforated clay blocks. They have, of course, been working on this for some time and produced, first, the horizontally perforated "H" block. This has now been surpassed by the vertically perforated block (the "V" block). This block (which was discussed in the JOURNAL of April 23) is stronger and easier to cut than its predecessor and provides a cavity wall which is as good as regards water-proofing as an 11-in. wall of normal construction, is much quicker to build and gives a U value of 0.25 as against 0.31.

The second potential success in this field is the development of a lightweight concrete block which is pre-scored down one vertical face to allow easy cutting. This makes cutting quicker and gives a usable off-cut. To the best of our knowledge only one firm is making each of these two new products so far and it is for architects and the trade to see that they are generally taken up.

## Felt roofing

There has been much trouble through people using felt on an unsatisfactory backing. Boarding is normally satisfactory, but screeds on woodwool slabs less so. Trouble is caused by differential expansion as between the felt and the screed. To avoid damage you must have a screed of at least  $\frac{1}{4}$  in. made of 1:4 cement mortar using a dry mix and suitably graded sand; and the screed must be cut at 10-ft. intervals to limit expansion. A reflective treatment on the felt will reduce heat absorption and for this a lime/tallow wash is still the best.

General contractors, Lewis & Watters.

## Composite structures

Much work has been done on the strength of framed structures with brick infill panels. Perhaps the most interesting results so far derive from some field tests on a block of flats and shops at Hemel Hempstead. Here it was shown that if you put a brick in-fill panel over a concrete beam, the in-fill panel, even if pierced by a window, will reduce the bending moment in the beam. If the wall is 8 ft. high the reduction in the bending moment on the beam is 6 to 1; if the wall is 13 ft. high the reduction in the bending moment is 12 to 1.

## Drainage

Below ground, work on drainage has been mainly concerned with finding how to give clayware pipes a measure of flexibility at the joints (i.e., to prevent breakage) and experiments are being made using rubber ring joints. Above ground, the excellent work on single stacks goes on. The one-pipe system using a 4-in. stack could only be used up to five storeys; above this it was thought necessary to have a vent. It has now been found that if you enlarge the stack to 5-in. dia. you can go on up to 10 storeys without a vent, and if to 6-in. you can go even higher.

## Condensation

Trouble is still experienced with condensation in double patent glazing and experiments have shown that you can only be sure of stopping it if you use a split glazing bar with insulation between to break the cold bridge effect. Plastic spray has been found a good method of providing a vapour barrier underneath existing insulation on walls and ceilings.

## Fundamental and user studies

Fundamental studies are always more difficult to assess as it is usually a long time before they issue forth in usable results. In heating, work is going forward on the all important question of thermal capacity and periodic heat flow. In lighting, an important study on permanent supplementary artificial lighting is virtually complete (an authoritative article on this is shortly to be published in the JOURNAL). On user requirements an enquiry has been completed on the number of socket outlets needed in houses and flats. More has been done on the troublesome problem of laundering in flats and in the even more troublesome refuse disposal. Lastly there has been a survey on drawing offices which has shown that ordinary office space is not to be adapted to this specialized and exacting user.

## Building operations

The important work which BRS has been doing on building operations is still virtually inaccessible to architects. Investigations into the cost of the superstructure of high flats in London and the provinces show that (with one exception) the cost in man hours ranges from 50 to 62 man hours per 100 sq. ft. of floor area. The one exception, a system using climbing shuttering, came out at only 44 man hours.

\* Building Research, 1958. HMSO. 5s. 6d.

to each floor and a suite comprising of a bed-sitting room, kitchenette and bathroom for the master in charge. The first part of the programme also had to include a new sewage disposal system to replace the old one which had been made inadequate by the increased population. This presented a problem because the site is subject to periodical flooding from the river. This fact also influenced the selection of floor levels of the buildings themselves which had to be established in relation to known maximum flood levels. The appearance of the buildings is not revolutionary and the everlasting problem of the fire escape has evidently not yet been overcome. Nevertheless, as economy has been the main consideration in the design, it is not fair to criticise the result too strongly on aesthetic grounds. The cost of galvanization as protection against rust on the r.s.j. stanchions which have been left exposed proved prohibitive and a special six-operation paint and rust inhibitor treatment was used instead. The stanchions are a part of the light framework used to support the floors and roofs for which timber construction has been employed. The 11-ft. wide spaces between the stanchions have cedar boarding on framing as external cladding finished on the inside with compressed straw boarding on hardboard.

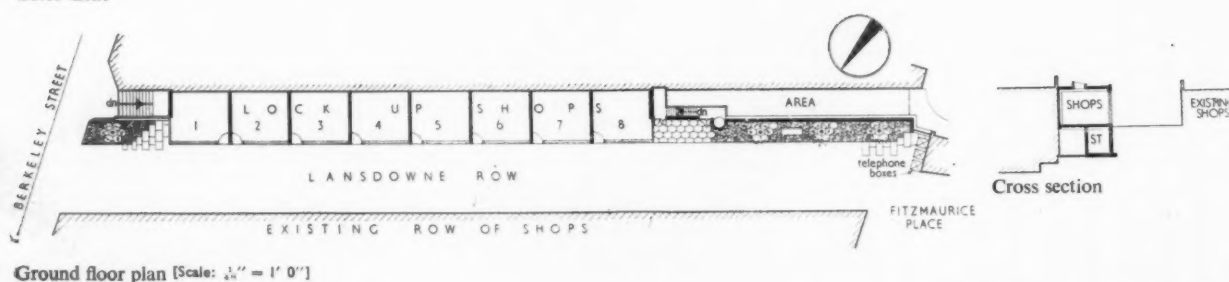
pectively. This solution allows further gradual expansion to be carried out unit by unit. Included in each block are washing facilities

## SHOPS IN LANDSDOWNE ROW, MAYFAIR, LONDON, W.1

*Lansdowne Row, which for many years has been an eyesore in Mayfair (see below), has now been im-*



*proved upon by the erection of a parade of eight shops (architect: O. Carey). Lansdowne Row is flanked along the east side by a sunken path called Lansdowne Passage, over one section of which the new shops have been built. The remainder has been screened by a brick wall. The passage has been retained to give access to the basement accommodation which has been provided for the shops. The shops have a simple reinforced concrete frame and the floors are of precast concrete units carried on r.c. beams which are cantilevered out over the old passage. Partitions are of breeze block and the shop fronts are almost entirely of glass. The main interest will lie in what goes into the shops and the owner, for his part, probably prefers a non-committal front to allow him to express his own ideas of window display. The background of massive buildings rising above does not offend the eye when one is actually present because the visual interest is kept low. The general contractors were A. N. Coles Ltd.*



building illustrated

*Service station and showroom in Poole Road, Poole, Dorset*

## SERVICE STATION AND SHOWROOM

for F. ENGLISH LTD., POOLE ROAD, POOLE, DORSET; designed by FARMER and DARK partner-in-charge E. M. C. BUTCHER; assistants I. C. CASE, I. T. KIDD, N. G. A. PEARCE quantity surveyors F. C. DENLEY and PARTNERS; consultants (canopies) A. J. & J. D. HARRIS (structural) WHEATLEY BRYON and PARTNERS LTD.

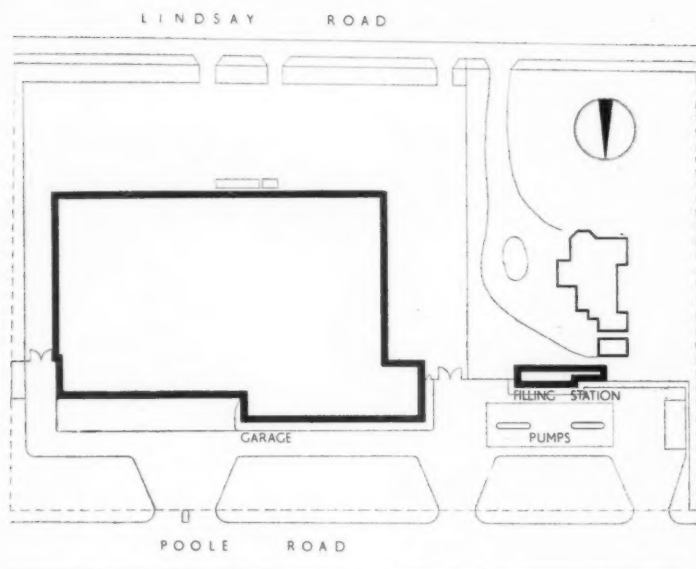
This service station and showroom is an excellent example of a straightforward design of integrity, carried out on a very small budget. In the following cost analysis, showroom and workshop areas are separately analysed, since their requirements and cost per square foot differ widely.

*View from Poole Road.*





## building illustrated



Site plan

**APPRAISAL :** This garage is set in a residential district in Poole, consisting of large Victorian houses in spacious gardens with full grown trees. There were several planning restrictions with regard to the building line and layout of the site, but these have been successfully accepted and turned to advantage in that the deep set-back from the road, wide grass verges, and retention of existing trees has added dignity and produced a very inviting effect.

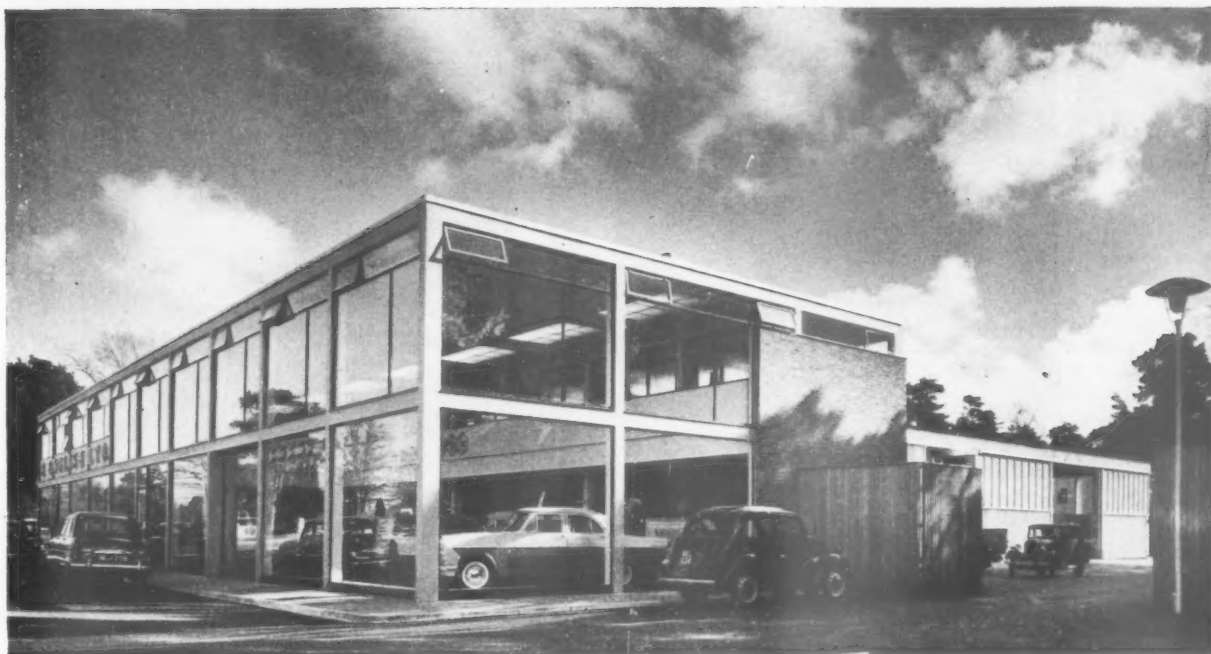
The three main elements, showroom, filling station and workshops for car-washing, greasing and maintenance are arranged along the road frontage so as to be immediately visible to the passer-by. There is access for vehicles to the stores and workshop yards at the rear of the building on either side of the main block. These are screened from the forecourt by high cedar board fencing and gates. Hard-standings and roadways are all of tarmac which tends to reduce the shabby effect of oil stains. The most prominent element, and probably the most successful piece of design is the showroom and office block, which is a two-storey steel framed structure on a regular 12-ft. grid pattern. Fire protection is achieved by wrapping the steel with expanded metal, then rendering and painting. Purpose-made metal windows are painted dark grey with white opening sections. Ribbed asbestos spandrel panels to upstairs offices are light grey and the illuminated lettering, bright blue. Inside the showroom the generous height is achieved by going up through both floors.

The highly polished wood-block floor and the wood veneer panelling under the balcony all provide a clean cut and efficient background which must go a long way towards selling the glossy monsters waiting for release. Paintwork is very restrained in neutral greys and whites. It had been the architects' intention to have a band of strong colour along the balcony front, continuing outside along the first floor spandrel panels but this was not agreed to by the client. In daytime, lighting is augmented by rooflights at the rear of the

showroom. At night—as the photograph shows—general illumination is provided by concealed fluorescent fittings in the suspended ceiling and rooflights and a specially designed fitting at floor level behind the windows. Additional sparkle is produced by recessed tungsten fittings under the balcony and adjustable spotlights fixed at first floor transom level. Heating is by pipe coils under windows and forced draught convectors. Spare parts and accessories can be obtained by the general public from a service counter in the showroom which is connected directly with the main stores area, in the workshop building behind. The showroom is linked with the first floor office by a straight flight of stairs, in reinforced concrete with black terrazzo treads and risers and metal balustrading having patent plastic hand-railing. The balcony to the showroom gives access to a row of offices divided by parana pine partitions with untreated hardboard panelling at low level and glazing above. Heating of the offices is by low pressure hot water serving pressed steel radiators.

The workshop entry for cars coming in to be serviced is adjacent to the showroom offices and customers making enquiries and giving instructions to the garage staff use a reception office within the showroom building. The remaining workshop frontage is given over to a car washing bay fitted with automatic spraying equipment, and four lubricating bays, with hydraulic lifts of two types. There is a very neat arrangement of oil and grease dispensers with overhead suspension, supplied under pressure from a central oil store. Dirty sump oil is drained into a retractable device sited below the grease dispensers. This otherwise waste material is put to very good use by being pumped back to a storage tank close to the boiler house, where it is subsequently used in a burner specially designed for use with dirty oil, to heat the building. Both washing and greasing bays can be opened up to public view.

The interior of the workshop is a steel framed structure using standard sections. The upstanding lattice beams are enclosed on either side by patent glazing, forming continuous rooflights. This system was found to be more economical than a triangular lattice beam. The roof is covered with a patent insulated steel decking finished with bituminous felt. Service runs are suspended from the roof; fluorescent lighting on simple batten fittings and steam pipes supplying the fan operated unit heaters. There is no paintwork apart from pipe runs and the exposed steel frame. Walls are of flint lime brick and patent glazing, the fascia being of a light gauge aluminium, capped with a protected metal drip. The stores (opening out of the main workshop) are constructed of slotted angle framing bolted together, wire mesh and standard metal shelving all of which is demountable should it be found necessary to resite them for future extension of the premises. The third element, the filling station, forms an independent part of the scheme and is not cost analysed here. Its most interesting features are the glazed tile mural (carried out by a local pottery to drawings supplied by the architect), and the pump canopies, which are of timber stressed skin construction, with unequal double cantilevers, the counterbalance achieved by concrete infilling. It was necessary to make the overhang of the canopy smaller on one side to provide access for tall vehicles. The sales office and lavatory block here are of a semi-temporary nature which will be replaced when the main part of the garage is extended.



*Above: the showroom, the workshop block can be seen behind through open cedar board gates.*



*Left: the showroom at night.*

*Below: interior of the showroom, showing lighting system, and offices opening on to a balcony behind.*

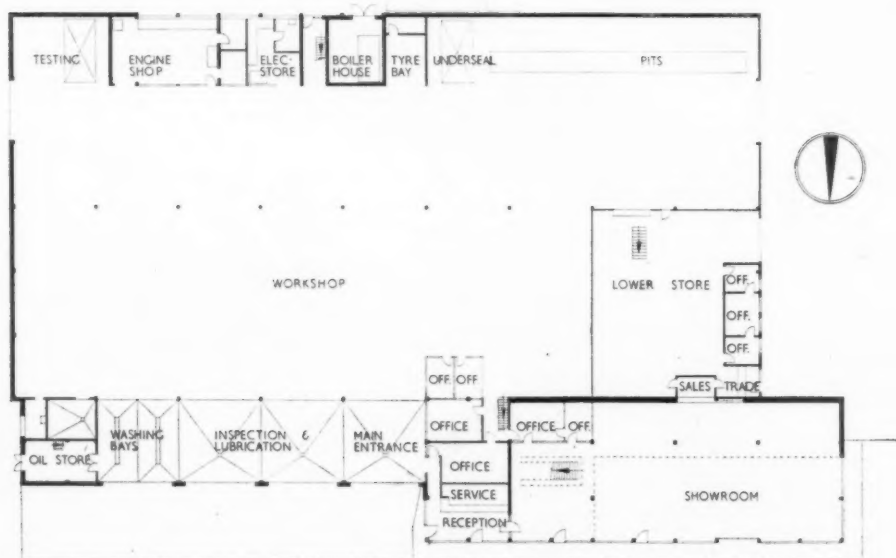


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building illustrated



### First floor plan



Ground floor plan [Scale:  $\frac{1}{8}'' = 1' 0''$ ]

*Above left: the service counter for spares and accessories.*

*Above: front of the workshop, given over to car washing and lubrication.*

*Opposite, top: the stairs leading to first floor offices.*

*Opposite, bottom: entrance to workshop, left, with reception office alongside.*

## analysis



## CLIENTS' REQUIREMENTS

A workshop and lubricating bays for the repair and maintenance of cars and light commercial vehicles and the preparation of new cars; a showroom for displaying new and secondhand cars; administrative and works offices. A separate filling station.

## PLANNING AIMS

To make the maximum use of the frontage for the showroom, lubrication and washing bays and filling station. The depth of the building was governed by building lines which enabled a 40-ft. deep showroom and a 4-bay depth repair shop to be provided. The stores had to serve workshop, showroom and trade counter. The workshop was designed for extension to the west, and when this takes place the stores can, if necessary, be dismantled and re-erected.

## SUMMARY

*Showroom and offices*

Ground floor area: 4,641 sq. ft.

Total floor area: 7,745 sq. ft.

Type of contract: RIBA.

Tender date: September 1, 1957.

Work began: September 9, 1957.

Work finished: August 2, 1958.

Tender price of foundations, superstructure, installations and finishes: £25,230 14s. od.

Final contract price: £25,535 14s. od.

Tender price of external works including drainage, and ancillary buildings: £2,259 6s. od.

Final contract price: £2,509 6s. od.

Total: £28,045.

*Workshop block*

Ground floor area: 26,267 sq. ft.

Total floor area: 27,293 sq. ft.

Type of contract: RIBA.

Tender date: September 1, 1957.

Work began: September 9, 1957.

Work finished: August 2, 1958.

Tender price of foundations, superstructure, installations and finishes: £50,599.

Final contract price: £51,363.

Tender price of external works, drainage and ancillary buildings: £3,561.

Final contract price: £8,049.

Total: £59,412.

Cost of filling station, including canopies, petrol pump installation, builder's work in connection with installation of petrol storage tanks and for vent tower, and concrete apron under canopies, £8,498.

(The filling station is not included in the following cost analysis.)



## building illustrated



Above: general view of the workshop interior.



Above: side access to workshop. Below: the filling station.



## analysis

<i>Show-</i> <i>room</i>		<i>Work-</i> <i>shop</i>	
s	d	s	d

Preliminaries and insurances 1½ ½

Work below ground floor level 5 8½ 4 6½

Normal footings and foundations.

## STRUCTURAL ELEMENTS

Frame or load-bearing element 7 10½ 8 10½

Structural steelwork, columns uncased except for one row of stanchions to workshop, within 40 ft. of the boundary.

External walls 1 2 1 5½

Showroom: mainly glazed. Flank walls, 11-in. cavity with Wessex buff brick facings, 2-in. cavity, 4-in. hollow clay inner skin.

Spandrel panels of painted ribbed a.c. sheets with hollow clay back-up walls.

$$\text{Ratio: } \frac{\text{solid wall}}{\text{floor area}} = \frac{0.195}{1}$$

Workshop: vertical patent glazing above 11-in. cavity wall of buff calcium silicate externally, white internally.

$$\text{Ratio: } \frac{\text{solid wall}}{\text{floor area}} = \frac{0.12}{1}$$

Windows and external doors 5 6½

Showroom: purpose made galvanised steel medium universal sections and pressed steel sills. ¼-in. plate glass clerestory. ¾-in. plate at ground floor level.

$$\text{Ratio: } \frac{\text{windows and doors}}{\text{floor area}} = \frac{0.38}{1}$$

Workshop 8½

Workshop: purpose-made galvanised steel medium universal section windows.

$$\text{Ratio: } \frac{\text{windows}}{\text{floor area}} = \frac{0.098}{1}$$

External doors 1 7½

External doors, galvanised steel sliding folding doors and galvanised pressed steel works entrance doors.

$$\text{Ratio: } \frac{\text{doors}}{\text{floor area}} = \frac{0.078}{1}$$

Upper floor 10 1½

Showroom: hollow clay reinforced concrete. Span, 12 ft., 16 ft. and 12 ft. Area, 350 sq. yds. Superload, normal office loading.

Workshop: span, 23 ft. Hollow pot. Area, 112 sq. yds. Superload, normal office loading.

Staircases 1 5 0½

Showroom: 2 staircases.

Main stair: width, 5 ft. Total rise: 10 ft. 6 in.

Secondary stair: width 3 ft. Total rise: 10 ft. 6 in.

Workshop: 1, reinforced concrete.

## analysis

## Roof construction and finishes

Showroom: flat roof 3-ply felt on vermiculite screed; 2-in. woodwool fixed to steel frame. Area, 516 sq. yds.  
Workshop: galvanised steel decking spanning 9 ft. 2 in. carrying  $\frac{1}{2}$ -in. insulation board and one layer of bituminous felt.  
Area: 2,150 sq. yds.

## Rooflights

Showroom: Patent glazing with purpose-made galvanised sheet steel upstands over showroom. 4 square domelights over accounts department.  
12 lights, total area 1,020 sq. ft.  
Workshop: Continuous patent glazing lantern lights formed around upstand lattice girders. Total area, 10,800 sq. ft.

## Glazing

Showroom: low level showroom windows  $\frac{3}{4}$ -in. polished plate.  
All other showroom windows,  $\frac{1}{4}$ -in. polished plate.  
Clerestory windows, 32 oz.  
Workshop: wired cast glass included in patent glazing, above.

## Total of structural elements:

Showroom 27s 0 $\frac{1}{2}$ d.  
Workshop 20s 1d.

## PARTITIONS AND FITTINGS

## Internal partitions

Showroom: 4-in. hollow clay.  
Workshop: 4 $\frac{1}{2}$ -in. fairfaced calcium silicate brick to sill level, clear glass in softwood frames above. 4 $\frac{1}{2}$ -in. and 9-in. fairfaced c.s. brickwork.

## Screens

Showroom: parana pine frames, glazed above sill level and reeded hardboard below.  
Workshop: galvanised wire mesh on slotted angle around stores; clear glass in galvanised steel frames in lubrication and wash bays.

## Internal doors

Showroom: natural parana pine, glazed in glazed screens, flush veneered in solid partitions. 43 single, 3 pairs double.  
Workshop: hardboard faced flush. Glazed sliding doors. 22 single, 1 pair double.

## Ironmongery

Anodized aluminium furniture.

## Fittings

Reception counter, lino topped, 3-ply faced.  
Sales counter, laminated plastic top, red cedar front with glazed display case incorporated.  
Illuminated signs and lettering, external and internal.

Show-	Work-
room	shop
s d	s d
2 7	4 9 $\frac{1}{2}$

Show-	Work-
room	shop
s d	s d
	1 $\frac{1}{2}$

Workshop: steel mesh mezzanine floor in oil store and steel stairs.

## Total of partitions and fittings:

Showroom 5s 11 $\frac{1}{2}$ d.

Workshop 2s 2 $\frac{1}{2}$ d.

## FINISHES

## Floor finishes

Type of finish	Area in sq. ft.	Price per sq. yd.
Showroom:		
1-in. oak block		
basket pattern	6,507	37s 5d
Thermoplastic tiles		
in lavatories	918	20s 3d

## Workshop

1-in. grano screed laid integrally with site concrete.

## Wall finishes

Showroom: plaster generally on solid partitions. Ply panelling in showroom and showroom offices.  
Workshop: T. & g. softwood boarding to stores.

## Ceiling finishes

Showroom: Acoustic tiles and insulation board.  
Workshop: asbestos cement sheet.

## Roof finishes

Workshop roof finish included under "roof construction."

## Decorations

Showroom: 2 coats emulsion paint on plaster, 2 coats compound glaze on parana pine.  
Workshop: 2 coats compound glaze to brickwork internally.

## Total of finishes:

Showroom 12s 8d.

Workshop 2s 2 $\frac{1}{2}$ d.

## SERVICES

External plumbing  
None.

## Hot and cold water installation

Showroom: electric storage heaters.  
Workshop: calorifier from oil heated boiler in winter. Immersion heater in summer.

## Sanitary fittings

Type of fitting	No. of each type
Showroom:	
Low level w.c.s	4
Urinals	2
Basins	4
Workshop:	
W.c. continuous galvanised iron trough	6
Slab urinal	1
Cast iron wash trough on tubular steel frame	2

## analysis

## Heating and ventilation

An oil-fired boiler which uses waste sump oil which is drained directly from a car into an apparatus in the lubricating bays. This filtering apparatus was supplied and installed under a separate contract. The oil is pumped automatically to oil storage tanks at the rear of the workshop, ready for use in firing the boiler, being stored in summer for use in winter.

From this source the showroom is heated by a combination of standard type radiators and exposed heating pipes, mainly placed for anti-condensation purposes. The workshop is heated by feeding a pumped system low pressure steam convactor units.

Internal temps.: showroom, 60 deg. F; offices, 65 deg. F; workshop, 55 deg. F. U of walls, both blocks, 11-in. cavity, 0.28; single glazing, 1.0.

U of roof, showroom and offices, 0.21; workshop, 0.35.

## Electrical installation

Showroom: 13-amp ring main for power. Comprehensive showroom lighting, mixed fluorescent and tungsten.

Workshop: Trunking from distribution point, from which runs of conduit.

15-amp plug points, 2 per stanchion.

## Mechanical services

Workshop: builders work in connection with installation of hydraulic lifts (cost of lifts not in contract).

## Total of services:

Showroom 14s 5½d.

Workshop 7s 11½d.

## Drainage

Workshop: cost includes petrol interceptors and special provisions for filtering mud and grease.

## Other elements

Workshop inspection pit and compressed air services.

Total per sq. ft. of floor area:

Showroom:

£25,535 14s (excluding external works)

7,745 sq. ft. (measured inside external walls) = 65 11½

Workshop: £51,363

27,293 sq. ft.

Show-room	Work-shop
s d	s d
7 9	3 6½

## COST COMMENTS

Separate analyses have been provided for the differing functions of workshop and showrooms and offices, and the main element groups are compared below, together with the percentages of total cost, so that it will be easier in future cost analyses of garages to see whether a cost pattern is established.

	Showroom and offices			Workshop		
	s.	d.	Per cent.	s.	d.	Per cent.
Prelims.	1½		2	½		2
Foundations	5	8½	8.7	4	6½	12.1
Structure	25	9½	39.2	20	1	53.4
Partitions and fittings	5	11½	9.0	2	2½	5.9
Finishes	13	10½	21.0	7	11½	5.8
Services	14	5½	21.9	7	11½	21.1
Other elements	—	—	—	7		1.5
	65	11½	100	37	7½	100

Value for money appears to be the keynote at Poole: in order to provide the showroom with the necessary eye-catching finishes and special light fittings, other elements have been—not skimped, but chosen without extravagance.

For example the average unit cost of the showroom's solid

is. 2d. wall =  $\frac{195}{6s. \text{ per sq. ft.}}$  The roof finish of 3-ply felt

on vermiculite screed is cheap but adequate. The workshop finishes may appear to be at a minimum but its roof finish is integral with and included under roof construction.

The analysis does not indicate the full financial implications of the unusual method of obtaining boiler fuel. The big increase in the external works is due to two things: a number of large holes were found on the site which had to be filled in with concrete, and a large area of tarmac car park was added at the end of the contract.

## CONTRACTORS

General contractor: John H. Wilson & Sons Ltd. Sub-contractors: Tiled wall panel: Carter & Co. Electrical installation: Aish & Co. Ltd. Petrol and oil installation: Shell Petroleum Co. Ltd., Pump Maintenance Ltd. Thermoplastic tile flooring: Southern Tiling Ltd. Metal decking: Robertson Thain. Wood-block flooring: Sherry & Haycock. Structural steelwork: Metal Constructions Ltd. Aluminium fascia: Willis Ltd. Steel sliding folding doors: Bolton Gate Co. Ltd. Aluminium sliding folding doors: Ford, Vincent & Co. Perspex lettering: Ward & Co. (Letters) Ltd. Terrazzo paving to stairs: A Cristofoli & Sons. Patent glazing: Standard Patent Glazing. Boiler equipment: Penfolds Ltd. Heating installation: James Combe & Son. Metal windows and doors: John Thompson Beacon Windows Ltd. Stores construction: Dexion. Ironmongery: G. H. Pearson. Sanitary fittings: Willis Ltd. Clothes locker baskets: James Seiber Equipment Ltd. Paint: Farrow & Ball, Vitrextex, Tretol. Lighting equipment: Ecko-Ensign Electric Ltd. Clocks: Baume & Co. Ltd. Bricks: Chas. Mitchell & Sons. Acoustic ceilings: Accousti-Celotex Ltd. Roofing felt: Ragusa Asphalte. Tarmacadam and concrete curbs: Limmer & Trinidad Lake Asphalte Co. Roofing slabs: Marlith. Glass: McKenzie Glass Ltd. Asbestos: Wiggins Sankey. Landscaping: Henry & Henry.

5 7½ 3 1½

2½

2 3 11½

7

37 7½

## technical section

## THE INDUSTRY

## Lighting fittings

Cone lighting fittings have always been simply designed and sold at a very reasonable price. One of the latest efforts is shown below. The ceiling plate and bulb shroud are egg-shell black, with a polished brass suspension tube and trim. Shades (various colours) are washable acetate and either 10- or 12-in. diameter, with a maxi-



mum lamp size of 150 watts. Prices for the two sizes are 39s. 6d. and 43s. 6d. including tax, there is also a similar model for low ceilings. This has no suspension tube and costs 4s. less in the two sizes. (Cone Fittings Ltd., 9 Rosemont Road, Hampstead, London, N. W. 3.)

## Small circulating pumps

Harland Engineering have recently introduced a range of Kalarite glandless circulating pumps for use with central heating systems. The design follows the now usual practice of lubricating the rotor with water so that no glands or stuffing boxes are necessary. The pumps are available



in various sizes with outputs from 1 to 160 gallons a minute. Prices are £30 to £90 according to size. (Harland Engineering Co. Ltd., Harland House, 20 Park Street, London, W.1.)

BRIAN GRANT

## 8 ESTIMATING

## current wage rates, market prices and measured rates

Since this feature last appeared\* there have been only minor changes in market prices and measured rates. In general the industry appears to be marking time with some of the signs of extreme competition disappearing as the volume of work increases. Five items have gone up in price: reinforcing rods, lime, joinery, polythene tubing and stock bricks, but of these only the latter (by 5s. per 1,000) by a really significant amount. As against these the following have gone down: salt glazed stoneware drain goods, copper sheets and asphalt tanking.

\* Six months ago: a gap caused by the printing dispute.

## Wage rates

Rates of wages rose on February 2, 1959, and are now as follows:

	Craftsmen		Labourers	
	s	d	s	d
London District				
Within 12 miles radius	4	10½	4	4
From 12 to 15 miles radius	4	10	4	3½
Liverpool and District	4	10½	4	4
Grade classifications				
A	4	9	4	2½
A1	4	8½	4	2

## Market prices

Prices are given for the major items in each trade, they are intended as average prices and include delivery in the outer London area. They do not include overhead charges and profit.

## Measured rates

Prices are for work carried out in the Outer London area and include 10% to cover overhead charges and profit except in the case of work which would be carried out by specialists when 5% has been allowed. The prices given in *italics* represent the total value of the materials included in the measured rates, including an allowance for waste and 10% for overhead charges and profit. The cost of labour included in the measured rates (including its proportion of overhead charges and profit) can be ascertained by subtracting the prices in *italics* from the prices in heavier type.

## Abbreviations

Inches: in. Feet: ft. Yards: Y. Yards cube: YC. Yards super: YS. Feet cube: FC. Feet super: FS. Ton: T. Feet run: FR. Thousand: M. Square: Sq. Number: No. Hundredweight: C. Pound: lb. Gallon: Gal.

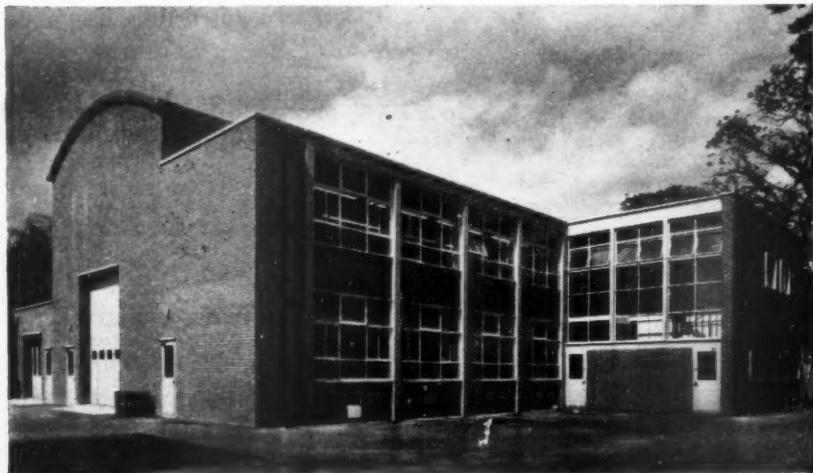
## Preliminaries

To all estimates based on prices for measured rates add, if required, for Preliminaries, water, insurances, etc., depending on the nature of the job.

## Price changes

\* Shows changes in market prices and measured rates since the last issue (April 2, 1959.)





ROLLS ROYCE LTD Research Laboratory, Littleover, Derby  
*Eric G. V. Hives, L.R.I.B.A., Chartered Architect*

# HOPE'S WINDOWS

*operated by shaft & lever  
window gearing*

**HENRY HOPE & SONS LTD**

*Smethwick, Birmingham & 17 Berners Street, London, W.1*

MEMBER OF THE METAL



WINDOW ASSOCIATION

## technical section

## EXCAVATOR

## Market prices

Carting away, up to 8 miles	YC		
Hand loaded	7	6	
Machine loaded	6	6	
Hardcore	YC	10	0
Ashes	YC	11	6

## Measured rates

## Hand excavation and disposal

NB: the following are applicable to excavation in heavy soil.

Excavating over site to remove top soil and vegetable matter, 6 in. deep	YS	1	3½
As above, 12 in. deep	YS	2	7

Excavating over site to reduce levels and getting out	YC	10	4
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Excavating for basement and getting out	YC		
Depth up to 5 ft.	11	7	
Depth between 5 & 10 ft.	16	10	
Depth between 10 & 15 ft.	22	0	

Excavating surface trenches and ditto	YC		
Depth up to 5 ft.	14	3	
Depth between 5 & 10 ft.	19	5	
Depth between 10 & 15 ft.	24	7	

Excavating basement trenches and ditto	YC		
Commencing 5 ft. below existing ground level	19	5	
Commencing 10 ft. below existing ground level	24	7	
Commencing 15 ft. below existing ground level	29	9	

Wheeling surplus excavated material not exceeding 100 yards and depositing	YC	5	2
--	----	---	---

Add to last for:			
Roughly spreading and levelling	YC	1	6½
Spreading, levelling and consolidating to make up levels	YC	3	4

Returning, filling-in and well ramming excavated material around foundations	YC	4	7
--	----	---	---

Loading surplus material into lorries and carting to tip, not exceeding 8 miles	YC	15	6
---	----	----	---

Excavating from spoil heaps selected top soil, wheeling not exceeding 100 yards, and spreading, levelling and consolidating, not exceeding 6 in. to receive turf	YS	2	3
--	----	---	---

## Mechanical excavation and disposal

Excavating for shallow surface excavation and loading into lorries or dumpers (using ¾ yd. cube excavator)	YC	3	0
--	----	---	---

Excavating for surface excavation and removing,			
---	--	--	--

spreading and levelling not exceeding 200 yds. (using 6 yd. cube scraper)	YC	2	11
---	----	---	----

Removing excavated material and depositing, not exceeding 200 yds. (using 3 yd. cube dumper)	YC	2	2
--	----	---	---

## Planking and strutting

Planking and strutting to sides of surface or basement excavation	FS		
---	----	--	--

Depth up to 5 ft.	8		
Depth up to 10 ft.	10		
Depth up to 15 ft.	1	0	
Planking and strutting to sides of surface and basement trenches	FS		
Depth up to 5 ft.	2		
Depth up to 10 ft.	3½		
Depth up to 15 ft.	4		

## Hardcore, etc.

Hardcore filled-in in layers, each layer well rammed	YC	*20	8
		13	9

Bed of ditto, 4-in. thick	YS	3	5
		1	6½

Ash filled-in in layers, each layer well rammed	YC	21	6
		15	10

## CONCRETOR

## Market prices

Portland cement, 6 tons and over	T	113	6
----------------------------------	---	-----	---

Rapid hardening, 6 tons and over	T	124	0
----------------------------------	---	-----	---

¾-in. down, washed, crushed and graded shingle	YC	*18	0
--	----	-----	---

1½-in. ditto	YC	*17	0
--------------	----	-----	---

Sharp sand	YC	*22	0
------------	----	-----	---

¾-in. diam. mild steel rods to BS 785 delivered station	T	*860	0
---	---	------	---

¾-in. ditto	T	*922	6
-------------	---	------	---

## Measured rates

Portland cement mass concrete in foundations etc.	YC		
---	----	--	--

1 : 12, 1½-in. "all-in" aggregate	*61	8	
	40	5	

1 : 3 : 6, 1½-in. aggregate	*69	9	
	48	6	

1 : 2 : 4, ¾-in. aggregate	*77	4	
	56	0	

1 : 1½ : 3, ½-in. aggregate	*79	0	
	57	9	

Add for:			
Working around rod or mesh reinforcement	YC	5	2

Walls not over 6-in. thick	YC	25	10
Walls 6-in. to 12-in. thick	YC	18	2
Walls over 12-in. thick	YC	12	11

Columns not over 72 sq. inches	YC	49	2
--------------------------------	----	----	---

Columns 72 to 144 sq. inches	YC	38	9
------------------------------	----	----	---

Columns over 144 sq. inches	YC	31	0
-----------------------------	----	----	---

Suspended floors and roofs not over 4½-in. thick	YC	20	8
--	----	----	---

Suspended floors over 4½-in. to 6-in. thick	YC	18	1
---	----	----	---

Suspended floors over 6-in. to 12-in. thick	YC	15	6
---	----	----	---

Beds not over 4½-in. thick	YC	10	4
----------------------------	----	----	---

Beds 4½-in. to 6-in. thick	YC	7	8
----------------------------	----	---	---

Beds 6-in. to 12-in. thick	YC	2	7
----------------------------	----	---	---

Hollow tile floor of clay tiles 4-in. thick at 15-in. centres laid on formwork (measured separately), nibs filled in with concrete (1 : 2 : 4) and finishing top of tiles with bed of concrete 1½-in. thick including tamping around reinforcement (measured separately)	YS	*17	9
		10	4

Ditto, but tiles 8-in. thick	YS	*27	4
		18	0

## Sundries

Finishing concrete with trowelled face to receive linoleum	YS	1	3½
--	----	---	----

Applying horizontal damp-proof membrane of Synthaprupe in three coats to surface of concrete and blinding with sand to form key	YS	5	10
		4	1

Supplying floor clips (p.c. 6d. each) and fixing	No.	1	1
--	-----	---	---

## Formwork

Formwork including strutting easing and striking:

Vertical faces of foundation	YS	*18	8
		9	6

Vertical faces of wall	YS	*19	3
		6	10

Soffite of floors not over 12-ft. high	YS	*19	1
		8	6

Sloping soffit of stairs	YS	*23	1
		9	3

Sides of columns	FS	2	6
		10½	

Sides and soffits of lintols and beams	FS	2	8
		1	0

Add to the above for wrot formwork including rubbing down concrete	YS	2	7
--	----	---	---

## Reinforcement

¾-in. diameter mild steel rods, hooked, bent and tied and fixing	C	*68	11
		52	3

½-in.	C	*74	4
		54	2

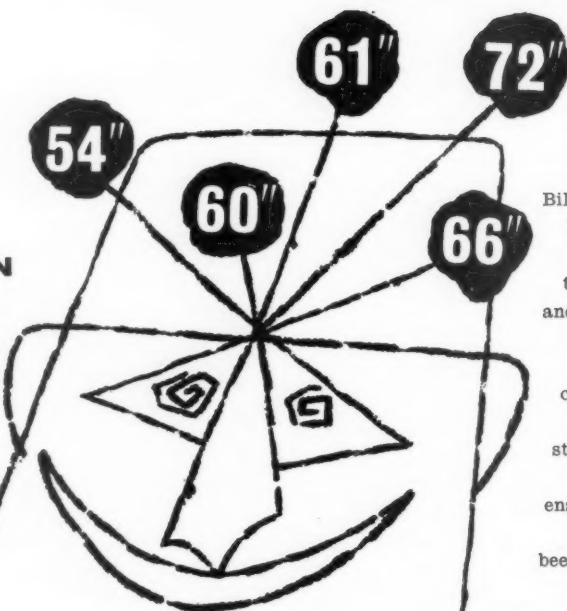
¾-in.	C	*31	1
		55	11

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## technical section

Concretor continued s d  
 1-in. C \*94 11  
 60 8

Steel wire mesh fabric  
 weighing 4.32 lb. per yd.  
 super and laying in concrete YS 4 1  
 3 5

Ditto weighing 6.57 lb. per  
 yd. super YS 6 0  
 5 3

Ditto weighing 9.32 lb. per  
 yd. super YS 8 5  
 7 4

## Precast concrete

Precast concrete (1 : 2 : 4)  
 finished fair on exposed faces  
 and hoisting setting and  
 jointing:

4 1/2-in. x 6-in. lintols rein-  
 forced with one 1/2-in. rod FR 2 10 1/2  
 2 4 1/2

4 1/2-in. x 9-in. ditto with two  
 1/2-in. rods FR 4 4  
 3 7

## Piling

Reinforced pre-cast concrete  
 piles, approximate prices for  
 supplying, unloading, pitching  
 and driving  
 12-in. x 12-in. up to 30 ft. FR 35 0  
 long  
 14-in. x 14-in. up to 50 ft. FR 41 0  
 long  
 Sheet steel piling, ditto T 1165 0  
 to  
 1230 0

## BRICKLAYER

## Market prices

Soft sand YC \*18 0

Hydrated lime T\*110 0

Plain Flettons M 118 0

Second hard stocks M\*320 0

Lingfield Engineering wire  
 cuts Grade B M 260 0

Hessian base damp-course  
 to BS 743 YS 5 8

Damp course slates, 14"x9" 100 76 3

Wall ties, galvanised 100 \*14 9

## Partitions

Clinker concrete, solid YS  
 2 1/2-in. \*4 7 1/2  
 3-in. \*5 10 1/2  
 4 1/2-in. \*7 6

Thermalite-Ytong YS  
 2 1/2-in. 7 0  
 3-in. 8 5  
 4-in. 11 0

Hollow clay YS  
 2 1/2-in. 4 5  
 (6 cavity) 3-in. 5 5  
 (ditto) 4-in. 6 10

Normal quality wood wool  
 slabs YS  
 2-in. 8 10  
 2 1/2-in. 10 2  
 3-in. 11 5

## Measured rates

Reduced brickwork in  
 cement lime mortar,  
 Lingfields in cement mortar YS

Flettons \*33 7

17 4

Second stocks \*55 5

39 1

Lingfield Grade B 51 11

33 3

Half brick wall ditto YS

Flettons \*18 7

8 3

Second stocks 29 5

19 2

Lingfield Grade B 28 3

16 1

11-in. hollow wall with 2-in.  
 cavity and wall ties YS

Flettons 38 2

16 10

Second stocks \*59 11

38 7

One brick wall built fair and  
 pointed both sides. YS

Flettons \*40 4

17 4

Second stocks \*62 2

39 1

Lingfield Grade B 57 7

33 3

## Sundries

Extra over common brick-  
 work for internal fair face  
 and flush pointing YS 1 5

Horizontal damp proof course  
 of two courses of slates and  
 bedding and pointing FS 4 2  
 2 4

Horizontal damp proof course  
 of hessian base bitumen FS 11  
 9

## Facings

Extra over ordinary brick-  
 work with bricks P.C. 118s.  
 per 1,000 for facings as  
 described

To solid wall in Flemish  
 bond YS

Facings P.C. 250s per M 15 11

9 7

Facings P.C. 350s per M 23 3

16 11

Facings P.C. 450s per M 30 6

24 2

To cavity wall in stretcher  
 bond YS

Facings P.C. 250s per M 13 2

7 4

Facings P.C. 350s per M 18 8

12 11

Facings P.C. 450s per M 24 3

18 5

Half brick wall in facings  
 built fair and pointed on  
 one side YS

Facings P.C. 250s per M 30 6

16 0

Facings P.C. 350s per M 36 1

21 6

Facings P.C. 450s per M 41 7

27 1

## Partitions

Clinker concrete solid  
 partition blocks and setting  
 in cement lime mortar YS

2 1/2-in. \*11 0

5 9

3-in. \*13 4

7 4

4 1/2-in. \*16 7

9 4

Thermalite-Ytong ditto YS

2 1/2-in. 12 9

8 6

3-in. 15 1

10 3

4-in. 19 2

13 4

Hollow clay ditto YS

2 1/2-in. 10 9

5 6

(6 cavity) 3-in. 12 10

6 9

(ditto) 4-in. 15 10

8 6

Wood wool slabs ditto YS

2-in. 14 1

10 6

2 1/2-in. 16 4

12 2

3-in. 18 6

13 9

## DRAINLAYER

## Market prices

Salt glazed stoneware pipes  
 and fittings. "Best" quality:

Ordinary pipes FR  
 4-in. \*1 4

6-in. \*2 1

9-in. \*3 7

## Bends

No. 4-in. \*4 0

6-in. \*6 0

9-in. \*16 2

## Pitch fibre pipe

FR

3-in. 1 10 1/2

4-in. 2 6

6-in. 5 0 1/2

Cast iron s. and s. pipe to  
 BS 437 YR

4-in. 28 2

6-in. 41 3

9-in. 77 3

Spun iron s. and s. pipe to  
 BS 1211, Class B YR

4-in. 13 3

6-in. 21 4

9-in. 35 10

## Measured rates

## Trenches and beds

Excavate trenches by hand in  
 heavy soil, including planking  
 and strutting, part returning,  
 filling and ramming and  
 wheeling and spreading  
 surplus, for pipes 4-in., 6-in.  
 and 9-in. dia. YR

Average depth of trench 3-ft. \*17 0

4-ft. \*22 9

6-ft. \*39 4

Excavate trench as last but  
 by mechanical trencher YR

Average depth of trench 3-ft. \*13 2

4-ft. \*18 1

6-ft. \*32 9

9-ft. \*54 2





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## technical section

## Drainlayer continued

	s	d
6-in. concrete bed and benching for 4-in. pipes	YR	*9 8 5 10
As above, for 6-in. pipes	YR	*11 3 6 10
6-in. concrete bed and surround for 4-in. pipes	YR	*15 7 9 5
As above, for 6-in. pipes	YR	*18 10 11 5

## Stoneware drains

"Seconds" quality salt glazed stoneware drain pipes and laying and jointing in trench	FR	
4-in.	*2	2
	1	5
6-in.	*3	1
	2	1
9-in.	*4	11
	3	9

"Best" quality salt glazed stoneware drain pipes and laying and jointing in trench

FR		
4-in.	*2	5
	1	8
6-in.	*3	5
	2	5
9-in.	*5	7
	4	5

Extra over "Seconds" quality pipes for:

Bend	No.	
4-in.	*3	2
		2 8
6-in.	*4	8
		4 1
9-in.	*13	4
		12 8

Single junction

No.		
4-in.	*5	8
	4	2
6-in.	*8	1
	6	3
9-in.	*17	0
	14	10

Double junction

No.		
4-in.	*9	5
	6	11
6-in.	*13	5
	10	4
9-in.	*26	0
	22	5

## Stoneware gullies

Salt glazed trapped gully with galvanized grating including setting gully on and surrounding with concrete and jointing to drain

6 in. x 6 in. grating 4 in. outlet	No.	
	*23 0	18 8
9 in. x 9 in. grating 6 in. outlet	*41 10	36 3

Grease and mud gully 9-in. diameter with 4-in. outlet galvanized bucket and grating and setting gully on and surrounding with concrete and jointing to drain

No.	*78 9 67 6
-----	---------------

Road gully with 6-in. outlet including setting on and surrounding with concrete and jointing to drain

15-in. dia. 30-in. deep	*109 3 86 4
18-in. dia. 48-in. deep	*217 8 179 9

## Pitch fibre drains

Pitch fibre drain pipes and laying and jointing in trench

FR	
3-in.	2 3 2 1 1/2
4-in.	2 11 1/2 2 9 1/2
6-in.	5 10 5 8

Extra over pitch fibre pipe for 45° bend

No.	
3-in.	16 3 15 4
4-in.	22 8 21 10
6-in.	44 3 43 3

## Cast iron drains

Cast iron spigot and socket drain pipes and laying and jointing in trench

FR	
4-in.	13 1 11 0
6-in.	19 1 16 4
9-in.	36 4 30 7

Extra over cast iron pipes for bend

No.	
4-in.	30 10 24 7
6-in.	72 2 62 10
9-in.	184 7 168 6

Spun cast iron spigot and socket drain pipes and laying and jointing in trench

FR	
4-in.	*7 4 5 3
6-in.	*11 3 8 7
9-in.	*20 2 14 6

## Cast iron gullies

Cast iron gully trap with high invert and setting on and surrounding with concrete and jointing to drain

No.	
4-in.	*45 5 36 7
6 in.	*110 9 97 9
9 in.	*245 9 228 4

## ASPHALTER

## Measured rates

Damp proof course and tanking

1/2-in. vertical damp proof course in two thicknesses on brick or concrete	YS	
	BS1097	*17 7
	BS1418	*22 0

1/2-in. horizontal damp proof course in one thickness on brick or concrete

YS	
BS1097	*10 9
BS1418	*14 2

Vertical tanking in three thicknesses

YS	
BS1097	*25 3
BS1418	*30 5

Horizontal tanking in three thicknesses

YS

s d

BS1097	*17 10
BS1418	*26 3

## Roofing

2-in. flat laid to falls in two thicknesses on and including felt underlay

YS	
BS988	*12 7
BS1162	*19 2

6-in. skirting with angle fillet at bottom and rounded edge at top turned into groove

FR	
BS988	2 1
BS1162	2 7

6-in. fascia with solid water check roll at top and undercut drip at bottom

FR	
BS988	4 2
BS1162	4 9

## PAVIOR

## Market prices

Granite chippings, 1/2 in. to dust	T	*45 1
Red quarry tiles, 6 in. x 6 in. x 7/8 in.	YS	13 8
2-in. Neolite paving	YS	13 11

## Measured rates

Cement and sand floated screed to receive pavings	YS		
2-in.	*4	2	4
1-in.	*5	1	1
1 1/2-in.	*5	8	3

Cement and sand paving trowelled hard and smooth

YS	
2-in.	*4 8 2 4
1-in.	*5 7 3 1
1 1/2-in.	*6 2 3 6

Granolithic paving laid on concrete

YS	
1-in.	*7 2 5 1
1 1/2-in.	*9 3 6 8

1/2-in. red composition paving laid on prepared screed

YS	16 6
----	------

3/8-in. terrazzo paving laid on prepared screed

YS	38 4
----	------

1/2-in. rubber flooring and laying in rolls

YS	39 5
----	------

1/2-in. rubber flooring and laying in rolls

YS	63 0
----	------

1 1/2-in. cork tile flooring, 12 in. x 12 in. and fixing with mastic and including polishing

YS	39 5
----	------

1/2-in. thermoplastic tile flooring and laying-on screed

YS	12 0
to	21 0

1/2-in. coloured linoleum and fixing with mastic to cement screed or boards

YS	*24 11
----	--------

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## technical section

## Pavior continued s d

$\frac{1}{2}$ -in. coloured linoleum and fixing with mastic to cement screed or boards YS \*19 11

$\frac{3}{4}$ -in. red quarry tiles laid on prepared screed YS 24 8

$\frac{3}{4}$ -in. red quarry tiles laid on prepared screed YS 27 10

2-in. Neolite paving laid on prepared bed, in random sizes and mixed colours YS 20 3  
16 1

12 in.  $\times$  12 in. anchor steel plates laid complete YS 59 6

## MASON

## Market prices

Stone in blocks in truckloads at stations in the London area:

Beer FC 9 0

Portland FC 9 2

Woodkirk Blue building quality FC 18 7

Broughton Moor slate in blocks at stations in the London area FC 60 0

Marble in blocks at works: Dove FC 70 0

Roman stone FC 65 0

## Measured rates

Stone and all labours in pilasters and quoins FC  
Portland \*54 10  
Beer \*52 3

Jambs FC  
Portland \*57 3  
Beer \*54 6

Lintels FC  
Portland \*58 3  
Beer \*55 6

Arches FC  
Portland \*67 6  
Beer \*64 3

Ashlar average 7-in. on bed with plain dressed face FS  
Portland \*31 6  
Beer \*30 0

Extra for each additional 1-in. thickness FS  
Portland \*3 6  
Beer \*3 4

$4\frac{1}{2}$  in.  $\times$  4 in. sill sunk, weathered, throated and grooved for water bar, set and jointed in cement mortar FR  
Portland \*10 2  
Beer \*9 8  
Artificial 4 11

4 in.  $\times$  12 in. coping, weathered and twice throated FR  
Portland \*20 3  
Beer \*19 3  
Artificial 11 11

## Marble and slate

$\frac{3}{4}$ -in. Dove marble lining and fixing on brick backings FS 37 10

$\frac{3}{4}$ -in. Roman stone lining FS 35 9

$\frac{3}{4}$ -in. Broughton Moor slate lining FS \*23 1

## SLATER, TILER AND ROOFER

## Market prices

Welsh slates, best quality M  
16-in.  $\times$  10-in. \*1042 9  
20-in.  $\times$  10-in. \*1923 6

Best hand made sand faced plain tiles,  $10\frac{1}{2}$ -in.  $\times$   $6\frac{1}{2}$ -in. M\*320 0

Grey corrugated asbestos cement sheets YS 7 0

## Measured rates

16-in.  $\times$  10-in. best Welsh slates laid 3-in. lap Sq.\*291 0

20-in.  $\times$  10-in. best Welsh slates, 3-in. lap Sq.\*395 0

Westmorland green slates in random sizes laid 3-in. lap Sq.\*600 0

Best hand made sand faced plain tiles,  $10\frac{1}{2}$  in.  $\times$   $6\frac{1}{2}$  in. laid to a 4-in. gauge Sq.\*212 0

Best hand made sand faced plain tiles,  $10\frac{1}{2}$  in.  $\times$   $6\frac{1}{2}$  in. hung vertically to  $4\frac{1}{2}$ -in. gauge Sq.\*232 0

Berkshire hand made sand faced red pantiles,  $14\frac{1}{2}$  in.  $\times$  10 in. laid  $2\frac{1}{2}$ -in. head and  $1\frac{1}{2}$ -in. side lap Sq.\*204 6

Grey corrugated asbestos cement sheets fixed to wood roofs Sq. 123 0

Grey corrugated asbestos cement sheets fixed vertically Sq. 133 0

Cedarwood shingles laid 5-in. gauge Sq.\*236 0

Metal roof decking and fixing with hook bolts, finished with  $\frac{1}{4}$ -in. insulation board and three layers self finish felt roofing YS  
18 gauge for spans up to 10 ft. \*57 6  
20 gauge for spans up to 8 ft. 6 in. \*50 0

Two layer one ply bitumen felt and fixing with bitumen to concrete or boarding YS \*9 6

Three layer bitumen felt YS \*12 7

Patent ribbed aluminium roofing and fixing to purlins Sq. 297 6

## CARPENTER

## Market prices

Softwood, carcassing quality Std.\*1640 0

Softwood, joinery quality Std.\*2100 0

$\frac{1}{2}$ -in. fibre board Sq. 46 6

$\frac{1}{2}$ -in. standard hardboard Sq. 40 0

$\frac{3}{4}$ -in. insulating gypsum wallboard YS \*3 0

## Measured rates s d

Softwood and fixing in plates, sleeper joists and lintels FC \*13 10  
11 11

In floor and ceiling joists FC \*16 3  
11 11

In stud partitions, purlins and struts FC \*18 5  
11 11

In hip and valley rafters FC \*21 1  
11 11

## Battening and boarding

Slate or tile battens  $1\frac{1}{2}$  in.  $\times$   $\frac{3}{4}$  in. and nailing to fixing for Sq.

16-in.  $\times$  10-in. slating to  $6\frac{1}{2}$ -in. gauge \*37 0

20-in.  $\times$  10-in. slating to  $8\frac{1}{2}$ -in. gauge \*27 0

$10\frac{1}{2}$ -in.  $\times$   $6\frac{1}{2}$ -in. plain tiling to 4-in. gauge \*50 0

$14\frac{1}{2}$ -in.  $\times$  10-in. pantiles to 12-in. gauge \*19 0

S.E. boarding in batten widths close jointed and fixing to flat or sloping roofs Sq.  
 $\frac{3}{4}$ -in.\*109 9  
75 9

1-in.\*133 9  
99 9

T. & g. boarding in batten widths close jointed and fixing to flat or sloping roofs Sq.  
 $\frac{3}{4}$ -in.\*143 3  
100 9

1-in.\*175 3  
132 9

$\frac{3}{4}$ -in. wrot and cross tongued eaves soffit FS \*2 2  
0 11

$\frac{3}{4}$ -in.  $\times$  6-in. wrot and grooved eaves fascia p.o. FS \*9 5

Wall and ceiling boards fixed to softwood YS

$\frac{1}{2}$ -in. fibre board 6 9  
5 0

$\frac{1}{2}$ -in. hardboard 5 9  
4 4

$\frac{3}{4}$ -in. insulating gypsum wallboard \*5 6  
3 9

$\frac{3}{4}$ -in. asbestos cement flat sheeting 8 8  
4 11

$\frac{1}{2}$ -in. asbestos cement flat sheeting 10 5  
6 8

2-in. Stramit, showerproof quality fixed to joists with butt joints 15 9  
11 6

## JOINER

## Measured rates

## Floors and skirtings

Tongued and grooved soft wood flooring and nailing to joists Sq.  
 $\frac{3}{4}$ -in.\*161 0  
121 6

1-in.\*177 6  
137 9

1-in. nominal double grooved t. and g. Swedish softwood

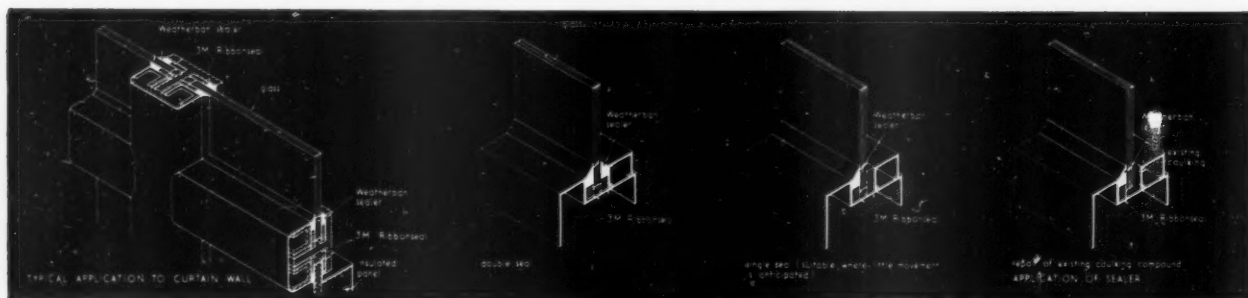


Time and exposure  
have proved that

**WEATHERBAN**

BRAND

is a perfect and lasting  
joint sealer  
-particularly for  
curtain walling



**WEATHERBAN** is one  
of the range of 3M  
adhesives and sealers for  
the building industry

**WEATHERBAN** is a two-part sealer specially compounded by 3M. After the addition of an accelerator it cures in situ and develops its permanent qualities, tenacious adhesion and high degree of elasticity making WEATHERBAN an effective and permanent weatherproof seal.

**Weather Resistance:** WEATHERBAN: has excellent resistance to ultra violet light, oxidation, solar heat and extreme climatic conditions. Service temperature -65° to 180°F.

**Adhesion:** WEATHERBAN possesses excellent adhesion to aluminium, glass, as well as other monolithic surfaces and unpainted wood. Typical tensile strength figures are 210 p.s.i. for colour black.

**Flexibility:** WEATHERBAN will stretch to over 300% and recover when stress is relieved.

**Non-Shrinking:** WEATHERBAN being approximately 100% solids, seals without shrinkage - containing no oils to evaporate.

**Pleasing Colours:** WEATHERBAN blends with buildings since it is available in standard colours - black, aluminium and tan. Other colours are obtainable.

**3M APPROVED CONTRACTOR SERVICE** is available for the application of Weatherban where required. Copies of the full specification for the sealing of curtain wall structures can be obtained from 3M.



Made by MINNESOTA MINING & MANUFACTURING CO LTD • 3M House • Wigmore Street • London W1 • Hunter 5522

ALSO AT BIRMINGHAM EAST 2051 • MANCHESTER CENTRAL 1351 • GLASGOW CITY 6704

TW/AMG

## technical section

Joiner continued		s	d
block flooring set in mastic and polished	YS	29	5
European beech	YS	*31	6
African Muhuhu	YS	*35	8
Burma teak	YS	*36	9
Moulded skirtings, 3-in. to 6-in. sectional area planted on (per inch in sectional area)	FR		
	Softwood	3	2½
	Oak	9	8
Extra for grounds plugged to brickwork	FR		
	Softwood	9½	2
Windows			
2-in. rebated and moulded sashes divided into squares	FS		
	Softwood	3	10
	Oak	*11	7
Extra for side hanging	Each		
	Softwood	2	10½
	Oak	*4	4
Doors			
2-in. framed, ledged and braced doors, filled in with 1-in. t. and g. and V jointed boarding and hanging	FS		
	Softwood	6	5
		5	8
Four panelled door square both sides and hanging	FS		
	Softwood	7	0
		6	3
	Oak	*20	7
		19	6
1½-in. Standard flush door, hardboard faced size 2 ft. 6 in. x 6 ft. 6 in. and hanging	No.	43	11
		32	5
Linings and frames			
Window and door linings, 6-in. to 12-in. sectional area (per inch sectional area)	FR		
	Softwood	4	3
	Oak	*10	9
Frames wrot all round and framed (per inch sectional area)	FR		
	Softwood	3½	
	Oak	*9	
Mullions, transoms and sills (per inch sectional area)	FR		
	Softwood	4	
	Oak	*10	
Mouldings, architraves, etc. 4-in. to 6-in. sectional area (per inch sectional area)	FR		
	Softwood	4	
		3	
	Oak	*11	
		10	
6-in. window boards, 1-in. thick with rounded nosing tongued at back and including bearers	FR		
	Softwood	3	2
		1	9

Shelving and fittings		s	d
¾-in. shelving of 2-in. slats spaced 1-in. apart on bearers (measured separately)	FS		
	Softwood	2	7
		2	0
¾-in. solid shelving on bearers	FS		
	Softwood	2	5
		2	0
	Oak	*4	10
		4	3
2-in. shelf bearers plugged to wall	FR		
	Softwood	7½	
		5½	
	Oak	*1	3
		1	1
Staircases			
1-in. treads and ¾-in. risers tongued together on and including framed carriages	FS		
	Softwood	4	10
		3	9
	Oak	*14	5
		12	10
1½-in. x 11-in. wall string plugged to brickwork	FR		
	Softwood	4	8
		3	8
	Oak	*12	2
		10	9
1½-in. x 9-in. outer string	FR		
	Softwood	3	7
		3	0
	Oak	*7	7
		6	9
Ends of treads and risers housed to strings	No.		
	Softwood	1	4½
	Oak	*6	9
2½-in. x 3-in. moulded handrail	FR		
	Softwood	3	3
		2	8
	Oak	*6	10
		5	11
1½-in. x 1½-in. square balusters	FR		
	Softwood	8½	
		6½	
	Oak	*1	5
		1	2
Framed ends to balusters	No.		
	Softwood	7	
	Oak	9½	
IRONMONGER			
Market prices			
As prices for ironmongery vary so greatly depending upon the type and quality required, no prices are quoted here			
Measured rates			
The rates which follow are for fixing only and are inclusive of profit			

3-in. steel butts		s	d
	Pr.		
	to softwood	4	7
	to hardwood	6	1
Double action floor springs			
	No.		
	to softwood	23	0
	to hardwood	30	7
6-in. barrel bolts			
	to softwood	2	1
	to hardwood	2	9
Cupboard locks			
	to softwood	4	4
	to hardwood	5	9
Cylinder night latch			
	to softwood	7	2
	to hardwood	9	7
Mortice latch			
	to softwood	5	9
	to hardwood	7	8
Mortice lock			
	to softwood	7	2
	to hardwood	9	7
Casement fastener			
	to softwood	1	9
	to hardwood	2	4
Casement stays			
	to softwood	1	9
	to hardwood	2	4

## STEEL &amp; IRONWORKER

## Market prices

Structural steel joist sections, basis sizes, ex mills	T 812	6
--	-------	---

Extras for other than basis sizes vary between 10s. and 70s. per ton

## Measured rates

Rsj in steel framed structures hoisted and fixed complete	T 1625	0
Riveted compound girders including plates and rivets	T 1915	0

Rs stanchions including caps, bases, cleats etc.	T 1885	0
--	--------	---

Metal windows including cutting and pinning lugs to brickwork and bedding frames in cement mortar No.

Domestic type 4 ft. high to BS 990		
Type ND2F 3 ft. 3½ in. wide	94	6
	78	1
Type HD2F 3 ft. 3½ in. wide	101	9
	85	5
Type ND1IF 6 ft. 6½ in. wide	162	0
	133	1

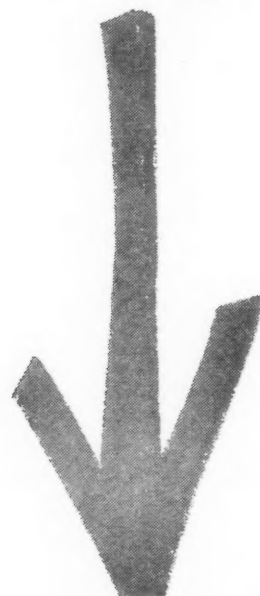
"Z" range, 4 ft. high		
Type ZND1 2 ft. 0½ in. wide	64	1
	53	2
Type ZND4F 6 ft. 0½ in. wide	163	6
	134	7

## PLASTERER

## Market prices

Plastering sand	YC *22	6
Plaster to BS 1191		

# The cheapest central heating there is - SOLID FUEL



**Cheapest Running Costs.** A new generation of house hunters is insisting on central heating. They regard it as just as much of an essential as the water supply. It's as well then that *solid fuel* central heating has such rockbottom running costs. Look at the figures on the right: *no other fuel* can compare for cheapness with solid fuel.

**Low Capital Costs.** It's not an expensive business installing a *solid fuel* central heating system. In fact, the recently developed small-pipe system, so perfect for smaller or medium-sized houses or bungalows, is of such low capital cost that central heating can now be put within the reach of a much larger section of the public than ever before. Special 5-year credit facilities are now available.

**For Architects.** "Central Heating for Houses." This 120-page survey of solid fuel central heating outlines the various systems available, from the open-fire-and-back-boiler to the latest small-pipe system. Copies 2/6 each. Write to the Coal Utilisation Council, 3 Upper Belgrave Street, London, S.W.1, for this booklet or any of the following publications:

List of Approved Domestic Solid Fuel Appliances, Warmer Homes with Solid Fuel, Fuel Stores for Houses and Flats, Building for Warmth—all free; and for 1/6—Correct Fixing of Domestic Solid Fuel Appliances.



**Compare the Running Costs!** This table shows typical comparative costs for different fuels. These have been calculated for a 3 bedroom house of some 1000—1,200 square feet and are those of an *average* week's heating and hot water supply during the 30-week heating season. Fuel prices vary, of course, and local costs can easily be calculated from those given. If you would like the data on which these figures are based, write to the Coal Utilisation Council, 3 Upper Belgrave Street, London, S.W.1.

<b>COKE</b> <i>Sectional Boiler</i>	<b>£9 ton</b>	<b>21/-</b>
<b>ANTHRACITE</b> <i>Gravity Feed Boiler</i>	<b>£12 ton</b>	<b>20/-</b>
<b>GAS</b>	<b>1/5d therm</b>	<b>33/1d*</b>
<b>ELECTRICITY</b>	<b>1d unit</b>	<b>45/7d*</b>
<b>OIL</b> <i>Sectional Boiler Conversion</i>	<b>1/5d gallon</b>	<b>31/5d</b>
*Gas and Electricity costs exclude Standing Charge		

## technical section

Plasterer continued		s	d
Class B in loads of 2 tons to 3 tons 19 cwt.	T		
Browning	168	9	
Fibred browning	171	9	
Board finish	168	9	
$\frac{3}{8}$ in. plaster lath, over 600 yds.	YS	*2	3 $\frac{1}{2}$
$\frac{1}{2}$ in. $\times$ 6 in. $\times$ 6 in. cream glazed wall tiles	YS	19	6
<b>Measured rates</b>			
<i>Metal lathing</i>			
No. 24 gauge expanded metal lathing and fixing	YS		
To softwood soffits	6	10	
	4	3	
To metal	7	7	
	4	3	
<i>Lime plaster</i>			
Render float and set on brick walls and partitions	YS	*7	4
		2	4
R.F. and S. on concrete including hacking	YS	*9	0
		2	4
R.F. and S. on expanded metal lathing	YS	*7	5
		2	5
<i>Gypsum plaster</i>			
Render in cement-lime-sand (1 : 1 : 6) and set in gypsum plaster on brick walls and partitions	YS	*5	10
		1	11
Render in gypsum fibred browning-sand (1 : 1 $\frac{1}{2}$ ) and set in gypsum on concrete soffits including bonding coat	YS	*9	5
		3	7
Render and set on expanded metal lathing including pricking up coat	YS	*9	0
		4	0
<i>Plaster board</i>			
$\frac{3}{8}$ -in. gypsum plaster lath fixed to softwood soffits finished to receive plaster	YS	*4	9
		2	10
Gypsum board finish setting coat on last	YS	*4	4
		1	2
<i>Plain face</i>			
$\frac{1}{2}$ -in. Portland cement and sand (1 : 3) plain face trowelled smooth on brick walls	YS	*6	8
		1	11
<i>Tyrolean rendering</i>			
Render in cement, lime sand (1 : 1 : 6) and finishing with three coats patent coloured mix preparations applied with hand operated machine	YS	*10	2
		2	5

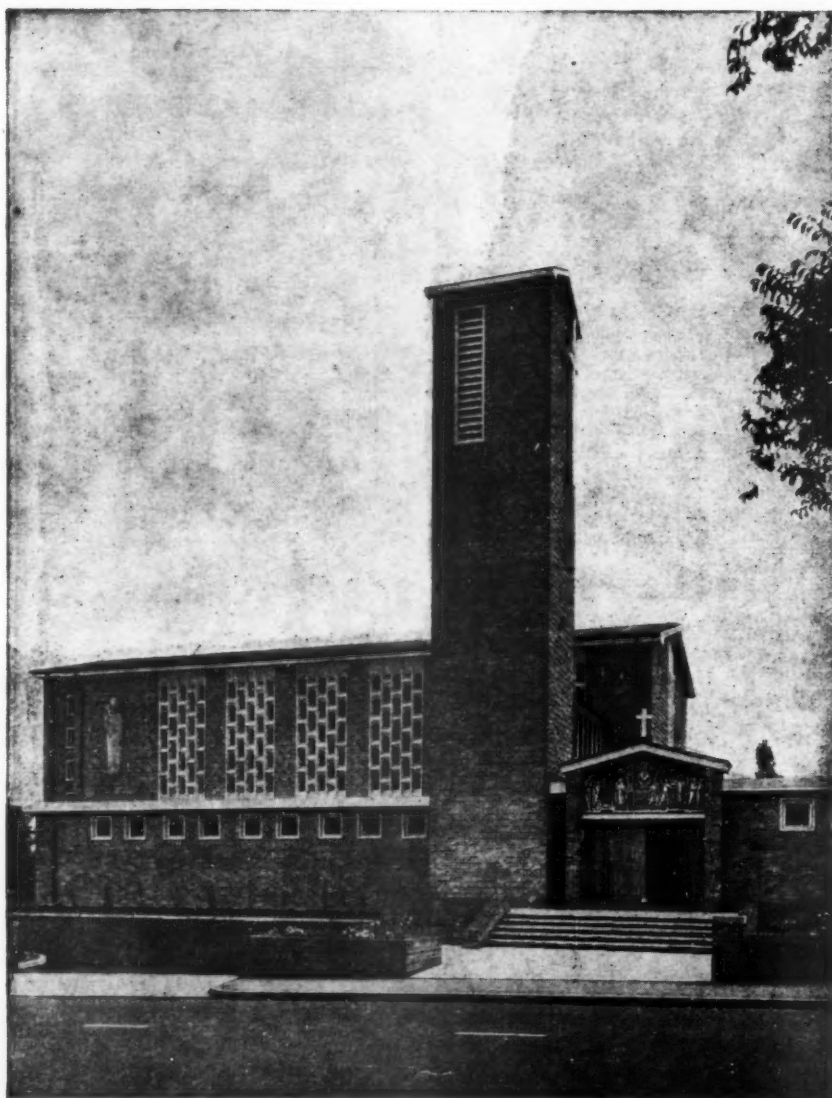
Splayed "Limpet" asbestos		s	d
Approximate prices for splayed "Limpet" asbestos on the following surfaces to the thickness shown for quantities of 1,000 yds. super. Normal pressed finish. New concrete soffits and beams	YS		
$\frac{1}{4}$ -in.	14	5	
$\frac{1}{2}$ -in.	19	8	
1-in.	21	9	
<i>New structural steelwork</i>			
	YS		
$\frac{1}{4}$ -in.	16	6	
$\frac{1}{2}$ -in.	21	9	
1-in.	23	10	
Extra over the above prices for coloured texture finish	YS	3	5
<i>Wall tiling</i>			
6 in. $\times$ 6 in. $\times$ $\frac{1}{2}$ in. standard quality white glazed wall tiles set and jointed on prepared screed	YS	41	9
Egg shell matt or glossy glazed enamelled tiles	YS	59	1
<b>EXTERNAL PLUMBER</b>			
<b>Market prices</b>			
Sheet lead, 3 $\frac{1}{2}$ lb. and upwards, in quantities of 5 cwt. to 1 ton	C	111	0
Copper sheeting, 23 gauge, in 1-ton lots	C*320	0	
Zinc sheeting, 14 gauge, in 1-ton lots	C*110	0	
Aluminium sheeting 20 SWG C Super purity	513	4	
Commercial quality	326	8	
Cast iron rainwater and soil goods			
Medium weight pipe to BS 416 and BS 460 in 6 ft. lengths	No.		
	2 $\frac{1}{2}$ -in.	18	10
	3-in.	21	0
	4-in.	26	10
Half round gutter in 6 ft. lengths	No.		
	3 $\frac{1}{2}$ -in.	7	11 $\frac{1}{2}$
	4-in.	10	4
	6-in.	16	11
The above are Standard-List prices plus 22 $\frac{1}{2}$ %.			
<b>Measured rates</b>			
Milled sheet lead	C		
Flat roofs	194	0	
Gutters and flashings	194	0	
24 SWG copper sheet	FS		
Flat roofs	*5	8	
Gutters and flashings	*5	8	
23 SWG copper sheet	FS		
Flat roofs	*6	6	
Gutters and flashings	*6	6	
14 gauge zinc	FS		
Flat roofs	3	5	
Gutters and flashings	3	5	
20 SWG super purity aluminium	FS		
Flat roofs	5	3	

Gutters and flashings		s	d
20 SWG commercial quality aluminium	FS		
Flat roofs	4	0	
Gutters and flashings	4	0	
<i>Rainwater gutters and pipes</i>			
$\frac{1}{2}$ -in. cast iron half round eaves gutter jointed and fixed to fascia with brackets	FR		
4-in.	3	6	
	2	3	
6-in.	5	2	
	3	7	
18 gauge pressed steel half round eaves gutter	FR		
4-in.	3	2	
	1	11	
6-in.	4	3	
	2	8	
Asbestos cement half round eaves gutter	FR		
4-in.	2	11	
	1	7	
6-in.	4	2	
	2	7	
Aluminium half round eaves gutter	FR		
4-in.	3	11	
	2	8	
Cast iron medium section rain water pipes jointed and fixed to walls with pipe nails	FR		
3-in.	5	10	
	4	5	
4-in.	7	4	
	5	7	
Pressed steel	FR		
3-in.	4	5	
	3	0	
4-in.	6	3	
	4	7	
Asbestos cement	FR		
3-in.	3	9	
	2	3	
4-in.	4	10	
	3	1	
Aluminium	FR		
3-in.	5	4	
	3	10	
4-in.	7	2	
	5	5	
<i>Soil and ventilating pipes</i>			
Lead soil, waste and ventilating pipes (15 lb. per yd. for 3-in. and 19 lb. per yd. for 4-in. diameter) fixed to walls with lead tacks	FR		
3-in.	11	4	
	8	3	
4-in.	15	1	
	10	0	
Cast iron soil, waste and ventilating pipes with caulked joints fixed to walls with pipe nails	FR		
3-in. heavy	7	1	
	5	2	
4-in. heavy	8	8	
	6	5	
Asbestos cement soil and ventilating pipe fixed to walls with holder bats	FR		
3-in.	3	10	
	2	4	
4-in.	4	11	
	3	2	



# **The ROMAN CATHOLIC CHURCH**

OF ST. THOMAS OF CANTERBURY  
Rainham, Kent



Photograph : "The Builder" Newspaper

Send for Sample and full details

# **Ibstock**

## **FACING BRICKS**

**IBSTOCK BRICK & TILE COMPANY LIMITED, Ibstock, near Leicester.** Telephone : Ibstock 591 (3 lines)  
London : L.M.R. Goods Depot, Wright's Lane, Kensington, W.8. Telephone : Western 1281 (2 lines)

**Architects:**

E. G. Dodds and  
K. C. White, A.A./R.I.B.A.

**Bricks:**

2 $\frac{3}{8}$ " Buff Multi Rustics  
Supplied through  
R. Passmore & Co. Ltd.

**General Contractor:**

J. H. Durrant & Son.

Ibstock Buff Multi facing bricks were used for this new Roman Catholic Church because of their pleasant appearance and durability. Ibstock Facing Bricks are particularly suitable when it is desired to blend with the existing surroundings and are produced in a large range of colours.

## technical section

## INTERNAL PLUMBER

## Market prices

Lead pipe in quantities of  
5 cwt. to 1 ton

C		
BS 602	113	3
BS 1085	120	3

Polythene tubing, heavy  
gauge, in quantities of 500  
to 999 ft. per 100 ft.

$\frac{1}{2}$ -in.	118	6
$\frac{3}{4}$ -in.	160	0
1-in.	203	0

Steel tubes to BS 1387  
medium weight galvanised FR

$\frac{1}{2}$ -in.	0	9
1-in.	1	1
$1\frac{1}{2}$ -in.	1	5
$1\frac{3}{4}$ -in.	1	8

The above are Standard List  
prices less 38%.Galvanised malleable fittings.  
Bend

No.		
1-in.	*2	10
$1\frac{1}{2}$ -in.	*4	3
$1\frac{3}{4}$ -in.	*6	1

Tee

No.		
$\frac{1}{2}$ -in.	1	0
$\frac{3}{4}$ -in.	*1	5
1-in.	*2	0 $\frac{1}{2}$
$1\frac{1}{2}$ -in.	*2	10
$1\frac{3}{4}$ -in.	*4	0 $\frac{1}{2}$

The above are Standard List  
prices less 23%, less 6 $\frac{1}{4}$ % plus  
40%.

Copper tubes to BS 659 FR

$\frac{1}{2}$ -in.	*0	11 $\frac{1}{2}$
$\frac{3}{4}$ -in.	*1	4
1-in.	*2	0 $\frac{1}{2}$
$1\frac{1}{2}$ -in.	*2	5 $\frac{1}{2}$

The above are calculated on a  
basic price of 2s. 3 $\frac{1}{2}$ d. per lb.  
plus C.T.A. extras.

## Measured rates

Lead pipe to BS 602

Main supply and laying in  
trench (measured separately)  
at the following sizes and  
weights in lbs.

FR		
$\frac{1}{2}$ -in. 7	3	9
	2	10
$\frac{3}{4}$ -in. 11	5	7
	4	4
1-in. 16	7	9
	6	4
$1\frac{1}{2}$ -in. 28	13	2
	10	11
$1\frac{3}{4}$ -in. 35	16	10
	13	7

Main supply fixed to walls  
and ceilings

FR		
$\frac{1}{2}$ -in. 7	4	4
	2	11
$\frac{3}{4}$ -in. 11	6	3
	4	5
1-in. 16	8	6
	6	5
$1\frac{1}{2}$ -in. 28	13	11
	11	0
$1\frac{3}{4}$ -in. 35	18	2
	13	8

Distributing pipes fixed to  
walls and ceilings

FR		
$\frac{1}{2}$ -in. 4	3	2
	1	9
$\frac{3}{4}$ -in. 5	3	8
	2	2
1-in. 7	4	9
	3	0
$1\frac{1}{2}$ -in. 9	5	7
	3	10
$1\frac{3}{4}$ -in. 12	7	3
	5	1

Flushing and warning pipes  
fixed to softwood

FR		
$\frac{3}{4}$ -in. 4	3	5
	1	7
1-in. 5	4	4
	2	0
$1\frac{1}{2}$ -in. 6	5	5
	2	5
$1\frac{3}{4}$ -in. 7	5	11
	2	10

Waste pipes and fixi. g to  
softwood

FR		
$1\frac{1}{2}$ -in. 6	5	5
	2	6
$1\frac{3}{4}$ -in. 7	5	11
	3	0

Joints to fittings

No.		
$\frac{1}{2}$ -in.	6	3
	1	5
$\frac{3}{4}$ -in.	7	1
	2	2
1-in.	7	6
	2	10
$1\frac{1}{2}$ -in.	8	3
	3	7
$1\frac{3}{4}$ -in.	9	0
	4	3

Extra for:

Bend No.		
$\frac{1}{2}$ -in.	2	9
$1\frac{1}{2}$ -in.	3	10

Branch joints

No.		
$\frac{1}{2}$ -in.	7	11
	1	5
$\frac{3}{4}$ -in.	9	1
	2	2
1-in.	9	6
	2	10
$1\frac{1}{2}$ -in.	11	2
	3	7
$1\frac{3}{4}$ -in.	12	9
	4	3

Polythene tubing to BS 1972

Heavy gauge as supply pipe  
laid in trench (measured  
separately)

FR		
$\frac{1}{2}$ -in.	1	9
	1	5
$\frac{3}{4}$ -in.	2	2
	1	10
1-in.	2	9 $\frac{1}{2}$
	2	4

Heavy gauge as supply or  
distributing pipe fixed to  
walls

FR		
$\frac{1}{2}$ -in.	*2	7
	1	5
$\frac{3}{4}$ -in.	*3	1
	1	11
1-in.	*3	7
	2	5

Galvanised steel tubing to BS 1387

Heavy weight with screwed red  
lead joints as supply pipe  
laid in trench (measured  
separately)

FR		
$\frac{1}{2}$ -in.	2	9
	10	
$\frac{3}{4}$ -in.	3	2
	1	0
1-in.	3	4
	1	5
$1\frac{1}{2}$ -in.	3	10
	1	10
$1\frac{3}{4}$ -in.	5	0
	2	2

Medium weight tubing fixed to  
walls

FR		
$\frac{1}{2}$ -in.	2	8
	1	10
$\frac{3}{4}$ -in.	3	1
	1	0
1-in.	3	3
	1	3
$1\frac{1}{2}$ -in.	3	9
	1	8
$1\frac{3}{4}$ -in.	4	11
	2	0

Extra for malleable iron:

Bend No.

1-in.	5	2
	3	1
$1\frac{1}{2}$ -in.	7	4
	4	6
$1\frac{3}{4}$ -in.	9	6
	6	7

Tee No.

$\frac{1}{2}$ -in.	3	2
	1	1
$\frac{3}{4}$ -in.	3	6
	1	6 $\frac{1}{2}$
1-in.	4	1
	2	2
$1\frac{1}{2}$ -in.	5	7
	3	1
$1\frac{3}{4}$ -in.	7	0
	4	5

Copper tube

Copper tube to BS 1386 as  
supply pipe laid in trench  
(measured separately) to the  
following size and gauges FR

$\frac{1}{2}$ -in. 18	2	1
	1	5
$\frac{3}{4}$ -in. 17	2	11
	2	2
1-in. 16	3	11
	3	2
$1\frac{1}{2}$ -in. 16	5	2
	4	3
$1\frac{3}{4}$ -in. 15	6	9
	5	7

Copper tube to BS 659 as  
distributing pipe fixed to  
walls

FR		
$\frac{1}{2}$ -in. 19	2	1 $\frac{1}{2}$
	1	3 $\frac{1}{2}$
$\frac{3}{4}$ -in. 19	2	7
	1	9
1-in. 18	3	6
	2	8
$1\frac{1}{2}$ -in. 18	4	4
	3	3
$1\frac{3}{4}$ -in. 18	5	1
	3	11

Extra for brass compression  
fittings joining copper to  
copper

No.

Coupling $\frac{1}{2}$ -in.	5	1
	3	3
$\frac{3}{4}$ -in.	6	4
	4	0
1-in.	8	11
	5	10
$1\frac{1}{2}$ -in.	11	2
	7	7
$1\frac{3}{4}$ -in.	15	3
	11	0
Bend $\frac{1}{2}$ -in.	6	4
	4	6
$\frac{3}{4}$ -in.	7	11
	5	6

## technical section

## Internal plumber continued s d

1-in.	11	4
	8	3
1½-in.	14	2
	10	6
1½-in.	23	1
	18	11
Tee ½-in.	9	4
	6	1
¾-in.	10	10
	7	0
1-in.	15	10
	11	4
1½-in.	21	6
	16	5
1½-in.	32	1
	26	5

## GLAZIER

## Market prices

Sheet glass cut to size	FS	
24 oz.	0	10½
32 oz.	1	5½

½-in. Polished plate glass,  
glazing quality in plates  
not exceeding:

	FS	
2 ft. super	*4	7
5 ft. super	*5	7
45 ft. super	*6	9
100 ft. super	*7	4

Rolled plate glass	FS	
½-in. rolled plate	1	1½
½-in. Georgian wired	6	2

Attention is drawn to  
reduction in certain glass  
prices offered by manufac-  
turers for acceptance of  
specified minimum quantities  
of one size and substance  
delivered to one address at  
one time

## Measured rates

## Glazing to wood

Ordinary quality sheet glass  
and glazing with putty in  
squares

	FS	
24 oz. O.Q.	1	6
32 oz. O.Q.	2	1

½-in. rolled plate glass	1	8
--------------------------	---	---

½-in. rough cast glass	2	1
------------------------	---	---

Prismatic glass	*2	9
-----------------	----	---

½-in. wired glass	2	5
-------------------	---	---

½-in. Georgian wired plate glass	8	4
-------------------------------------	---	---

½-in. Polished plate glass (glazing quality) in plates 5 to 45 ft. super	8	7
--	---	---

## Glazing to metal

Add to above rates 1d.  
per ft. super

## Sundries

Hacking out broken sheet glass	FS	1 3
-----------------------------------	----	-----

Black ribbon velvet and bedding to edge of glass	FR	8
---	----	---

Double glazing  
Insulight units of two skins  
of glass with lead spacers

and glazing with mastic for  
beads (supplied). In panels  
16 to 40 ft. super FS  
32 oz. sheet \*10 11  
½-in. polished plate \*22 3

## Patent glazing

Patent glazing with rolled  
steel lead capped bars for  
8-ft. spans and glazing with  
½-in. Georgian wired cast FS \*4 9

Aluminium alloy patent  
glazing FS \*4 11½

## PAINTER

## Market prices

Washable distemper C 120 0

Emulsion paint Gal. 45 0

Hard gloss paint: Gal.  
Undercoat 46 0  
Finishing 46 0

## Measured rates

On walls and ceilings YS

Twice whitened plastered  
ceilings 1 5  
3

Two coats distemper on  
plastered walls or ceilings \*2 2  
1 0

Two coats distemper on  
fair-faced brick or concrete  
walls 2 8  
1 3

Two coats emulsion paint on  
walls or ceilings 2 10  
1 8

Prepare, prime and apply one  
coat oil colour on plastered  
walls 3 10  
1 9

Add for each additional coat 1 8  
10

## On metal

Prepare, prime and apply one  
coat oil colour on general  
surfaces YS

Basis price 3 7  
1 6

Add for each additional coat 1 8  
10

On metal casements YS  
Basis price 5 9  
1 6

Add for each additional coat 2 6  
10

On bars, angles etc., not  
exceeding 6-in. girth YR  
Basis price 11½  
3

Add for each additional coat 5  
2

On small pipes YR  
Basis price 11½  
3

Add for each additional coat 5  
2

On large pipes YR  
Basis price 1 11  
6

Add for each additional coat 10  
3½

Prepare, prime and apply one  
coat heat-resisting paint on  
heating surfaces of radiators

YS

Basis price 4 2  
1 4

Add for each additional coat 1 10  
8

## On wood

Knot, prime, stop and apply  
one coat oil colour on  
general surfaces YS

Basis price 4 0  
1 7½

Add for each additional coat 1 8  
10

On work not exceeding 3-in.  
girth YR

Basis price 6  
1½

Add for each additional coat 2½  
1

For each additional 3-in.  
girth YR

Basis price 5½  
1½

Add for each additional coat 2½  
1

## Stain and varnish

Prepare, size, stain and twice  
varnish on general surfaces  
of woodwork YS \*4 5  
1 9

On work not exceeding 3-in.  
girth YR 7  
1½

For each additional 3-in.  
girth YR 6  
1½

## Oiling and polishing

Twice oiling general surfaces  
of hardwood with linseed oil YS \*2 7  
1 1

On work not exceeding 3-in.  
girth YR 3  
1

For each additional 3-in.  
girth YR 3  
1

Staining and wax polishing  
general surfaces of hardwood FS 1 1

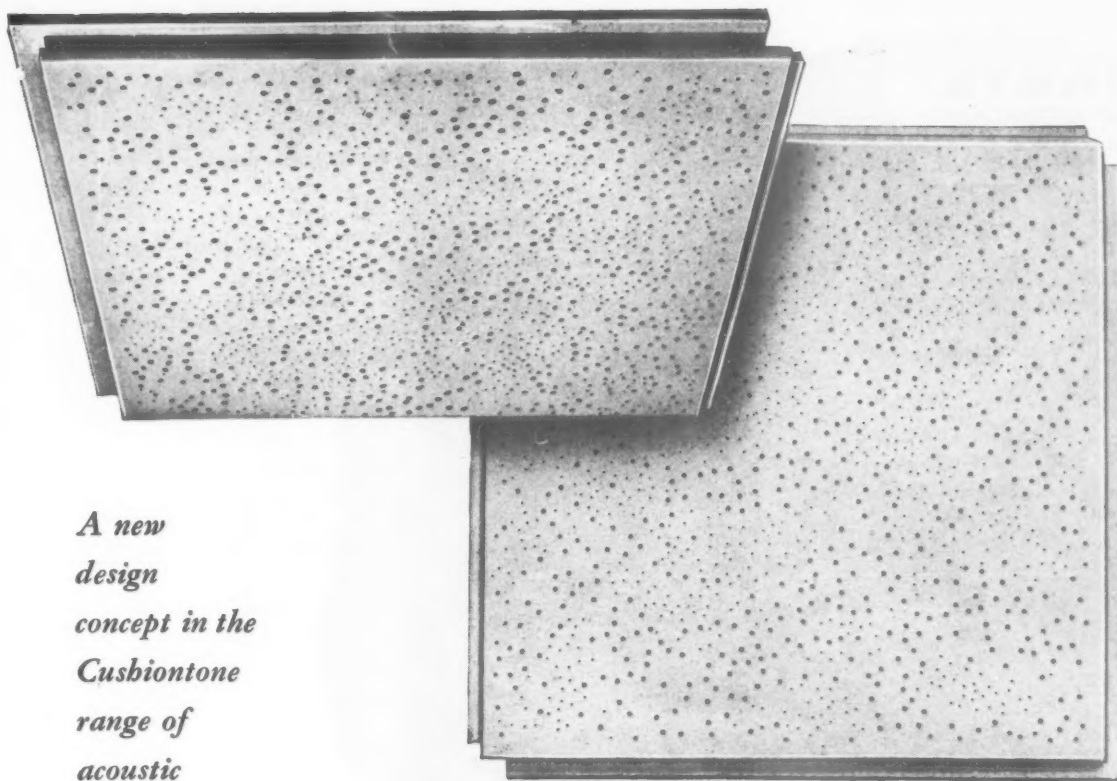
Staining bodying-in and fully  
French polishing on general  
surfaces of hardwood FS 2 8

## Papering

Preparing and sizing walls  
and hanging plain lining  
paper Piece 10 10  
3 3

Hanging wall paper, p.c. 10s.  
per piece Piece 20 9  
12 9

Hanging border p.c. 1s. per  
yd. YR 1 9  
1 3



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concept in the  
Cushiontone  
range of  
acoustic  
ceilings*

## CLASSIC CUSHIONTONE

Armstrong Classic Cushiontone is an entirely new design concept in low cost, wood-fibre acoustic ceilings. This exclusive Classic design of hundreds of tiny perforations scattered in lace-like fashion across the surface, produces an attractive, free flowing effect in an installed ceiling. Classic Cushiontone offers all the economies of wood-fibre plus the simple beauty of contemporary design.

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Cushiontone tiles are manufactured from tough pine fibres and have a washable two coat, white painted finish which is easily maintained and ensures a high light reflection of over 75%. They can be stuck, stapled or mechanically suspended.

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Armstrong Textured Cushiontone is a fissured surface which makes an attractive variation from the established designs of perforations or slots. Sizes 12" x 12" x  $\frac{1}{8}$ " Tongued and Grooved.



Armstrong Full Random perforated Cushiontone gives a pleasing free appearance eliminating eye strain. Sizes 12" x 12" and 24" x 24",  $\frac{1}{8}$ " and  $\frac{3}{16}$ " thicknesses.



Armstrong Straight Row Cushiontone. Sizes 12" x 12" and 24" x 24",  $\frac{1}{8}$ " and  $\frac{3}{16}$ " thicknesses.



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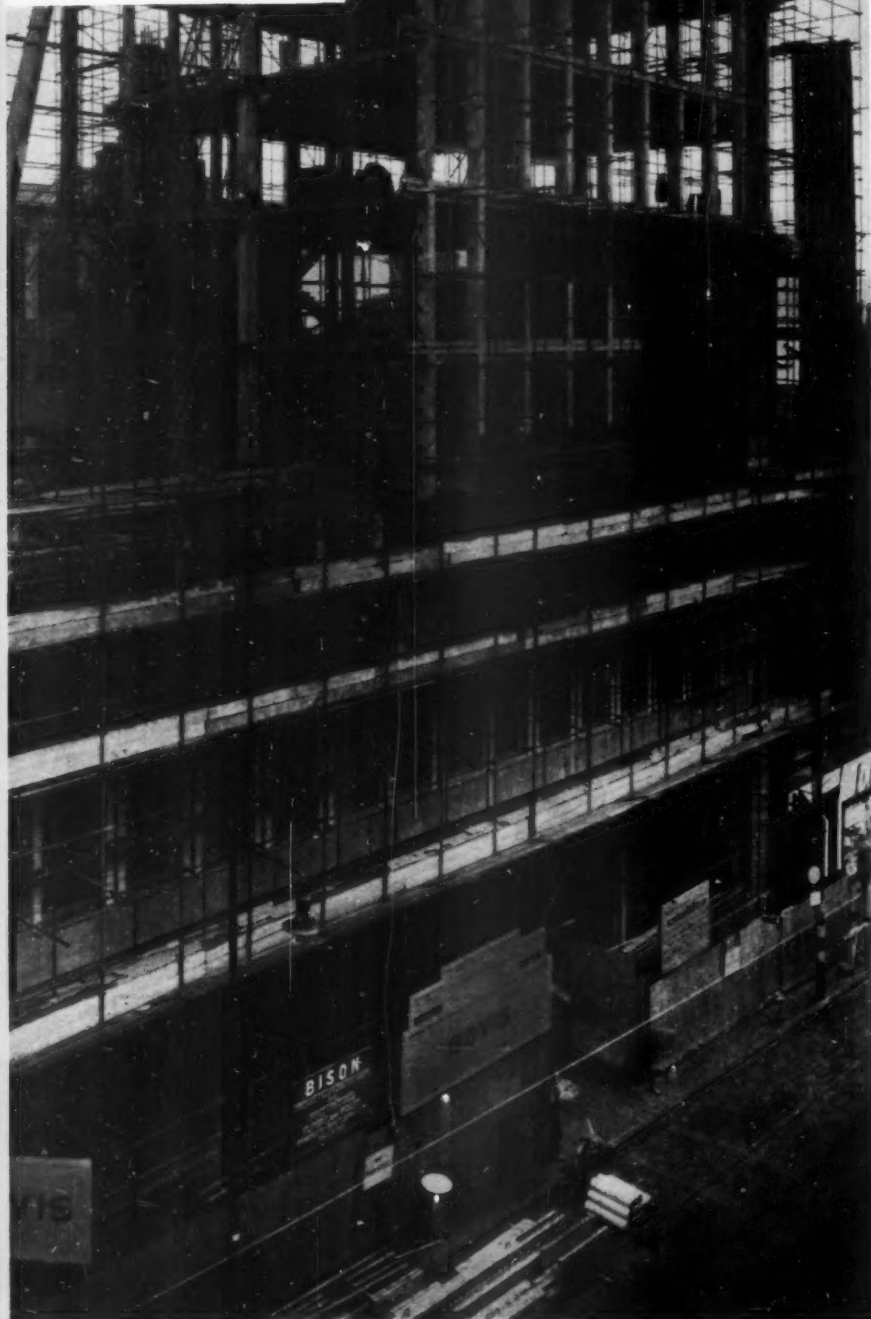
Acoustics Dept. Honeypot Lane, Kingsbury, London, N.W.9. Tel: COLindale 7080

\*Trade Mark Armstrong Cork Company, Ltd., authorised user.



## CONCRETE

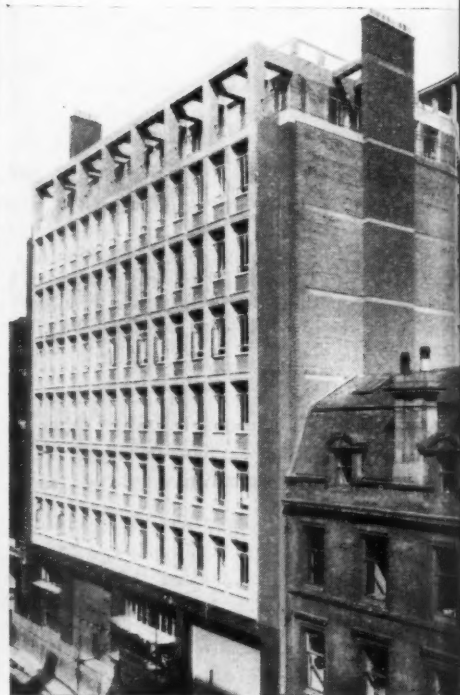
EXAMPLE OF ECONOMY  
IN BUILDING



## Royal London House Glasgow

This 8-storey building is 97ft. high to the main roof. The internal concrete columns from the ground to first floor are circular 21in. diameter, the greatest load on a single column being 327 tons. The columns on the pavement frontage are made to receive polished granite facings and carry a cast *in situ* frontage beam 5ft. deep. Above this the frontage mullions are constructed with precast 2-storey "H" frames. The lift well has precast columns with *in situ* infilling walling. The main staircase is precast in half-storey flights. Careful preplanning by the architect and consultant enabled holes for all services to be formed in the precast units. Erection of the framed portions of the building was completed in 6 months.

Architect: H. Bramhill, F.R.I.B.A.  
Consulting Structural Engineers:  
John F. Farquharson & Partners  
Main Contractors: Bovis Limited.



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The Eastern Region of British Railways have announced their plans for the major remodelling of Broxbourne station in Hertfordshire. This is in preparation for the electrification of the line from Liverpool Street, due for completion next year. A new approach road and forecourt will serve the new station. Connecting the booking hall with two new island platforms will be a dual corridor overbridge—one for passengers and one for parcels and staff. The architect is H. H. Powell, Regional Architect.

More architects now say

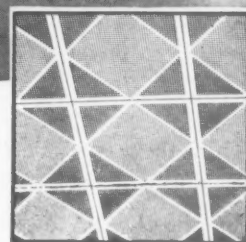
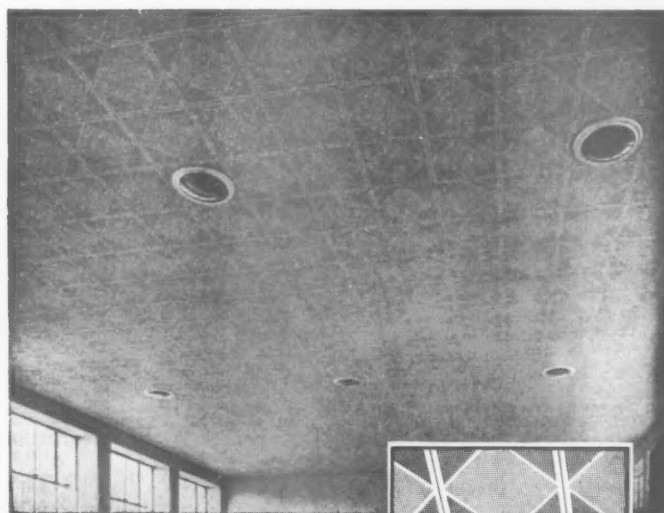
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## Announcements

### PROFESSIONAL

Eric G. V. Hives, L.R.I.B.A., has taken his two sons, Colin V. Hives, Dipl. Arch., A.R.I.B.A., and John G. Hives, Dipl. Arch., A.R.I.B.A., into partnership under the style of Eric G. V. Hives & Sons. The practice will be conducted from 46, Queen's Road, Reading, Berks (telephone 55484/5), 80, Wimpole Street, Cavendish Square, London, W.1 (telephone Welbeck 0012/3) and 21, Market Place, Derby (telephone 48922).

George, Trew & Dunn, Chartered Architects, have moved to new offices at 50, Eastbourne Terrace, London, W.2 (telephone Paddington 6611/5).

H. Werner Rosenthal, F.R.I.B.A., would like to renew his request for all correspondence, etc., to be sent to his studio at Greystead, Quill Hall Lane, Amersham, Bucks (telephone Amersham 894).

Frederick S. Snow & Partners, Consulting Engineers, will move to new offices at Ross House, 144, Southwark Street, London, S.E.1, on October 12.

Bader and Mill, Chartered Architects and Surveyors, have moved to new offices at 36, Great Russell Street, London, W.C.1 (telephone Langham 1003).

Eris Ross, F.R.I.B.A., who has been Chief Architect to the Bristol Group of Companies since 1941, is leaving his present appointment at the end of this month to resume private practice with George Brown & Partners of Bristol.

### TRADE

John Dickinson & Company (Bolton) Limited have become members of the Natural Asphalt Mine-Owners and Manufacturers' Council.

James Latham Ltd. announce that a second edition of *Users Guide to Hardwoods* has been prepared and is now available on request.

The Directors of The George Cohen 600 Group Ltd. announce that R. Gavin Orr, M.C., M.Inst.W., has been appointed Managing Director of T. C. Jones & Co. Ltd.

Alfred Graham and Co. Ltd., a subsidiary of Siemens Edison Swan Ltd. have undertaken to carry out all sales of convection heaters and tubular heaters hitherto handled by Siemens Edison Swan Ltd.

The Research and Development Division of Baird & Tatlock has been formed into two main sections: they will be known as Research and Development (Analomatic Instruments) and Research and Development (General Instruments).

H. Newsum Sons & Co. Ltd of Lincoln, have appointed L. G. Booth, M.A., Ph.D., D.I.C., as their structural engineering consultant. They have also changed the address of their London office to Mellin's House, 56/60, Hallam Street, London, W.1 (telephone Langham 8423).

Novobord (UK) Ltd., have now moved to 1a, The Parade, Haven Green, Ealing Broadway, London, W.5 (telephone Perivale 8079).

F. C. Harrison has resigned from Shires & Co. (London) Ltd. J. Ferguson, Director and General Manager of Shires has assumed all the responsibilities previously undertaken by Mr. Harrison.

G. T. Goodman, a Director of The Unit Construction Company, has been appointed Managing Director of Pierhead Limited, this company incorporates the Pierhead Engineering Division of Unit.

Richard Crittall & Company Limited, have opened a new office at Andrews Buildings, 67, Queen Street, Cardiff (telephone 22508).

Merchant Adventurers of London Ltd. have appointed Roland Boissevain to the Board.

Tibor Ltd. announce that F. Alexander Ramsay, M.S.M.A., A.I.S.M. (Aust.) has joined the company and has been appointed Sales Manager.

The International Nickel Company of Canada Ltd. have elected J. Stuart Anderson as Vice President and also Assistant Treasurer of the company.

British Insulated Callender's Cables Ltd. announce that the telephone number of their "Panelec" Heating Division is now Museum 1600.

Austins of East Ham Ltd. have appointed J. R. Spring to assist W. Frost in representing the company in Sussex.

United Paint Co. Ltd. have moved to 20, Bishopsgate, London, E.C.2 (telephone Avenue 4556/7/8/9).

Myton Ltd. have appointed G. R. Shearing as Technical Representative for the North Eastern Area.

John Denison, structural engineer, has recently formed his own company, Denison French Limited, 67, Chancery Lane, London, W.C.2 (telephone Holborn 2587).

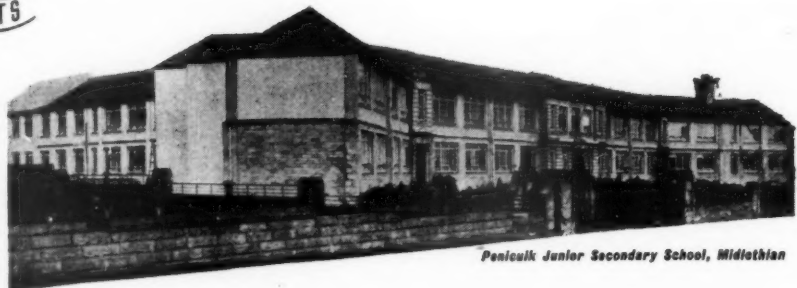
Two of The Carter Group of Companies have moved to new addresses; Carter & Co. London Ltd. are now at 157, Clapham Road London, S.W.9, and the Marbolith Flooring Co. Ltd. at 159, Clapham Road, London, S.W.9. The telephone numbers are unchanged.

Powell Duffryn Ltd. have acquired the whole of the share capital of Janitor Boilers Ltd.



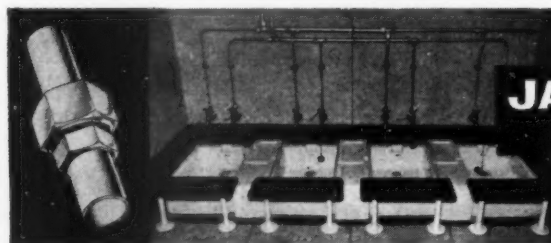
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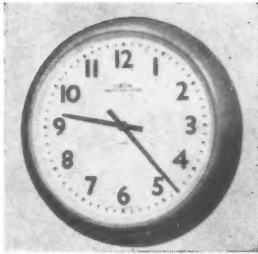
London Office: Norfolk House, Laurence Pountney Hill, E.C.4

Tel: Mansion House 5700

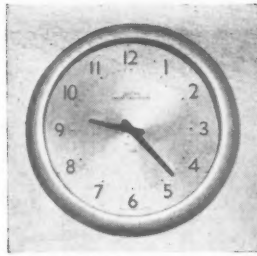
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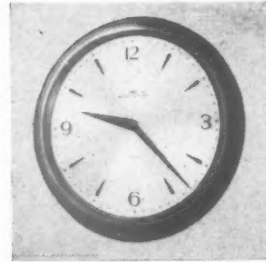




Melton/Fleet



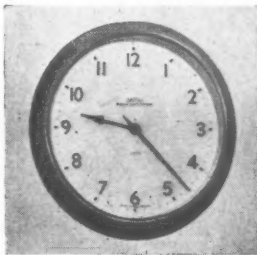
Mayfair/Farnham



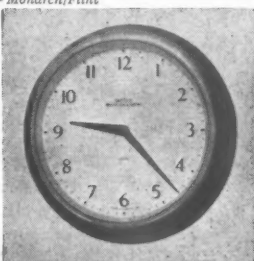
Malvern/Fern

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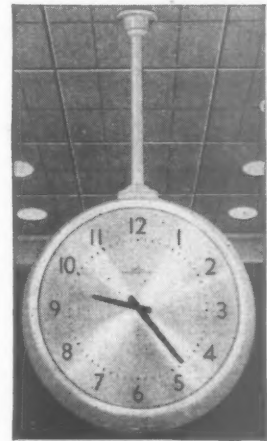
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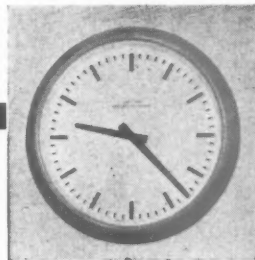
Medway/Pife



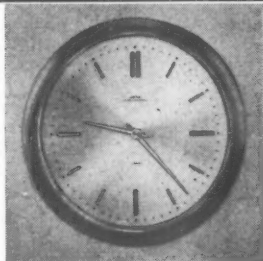
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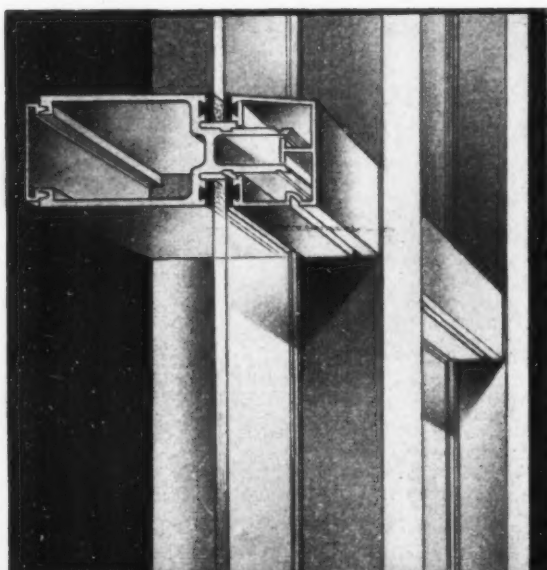
Falcon

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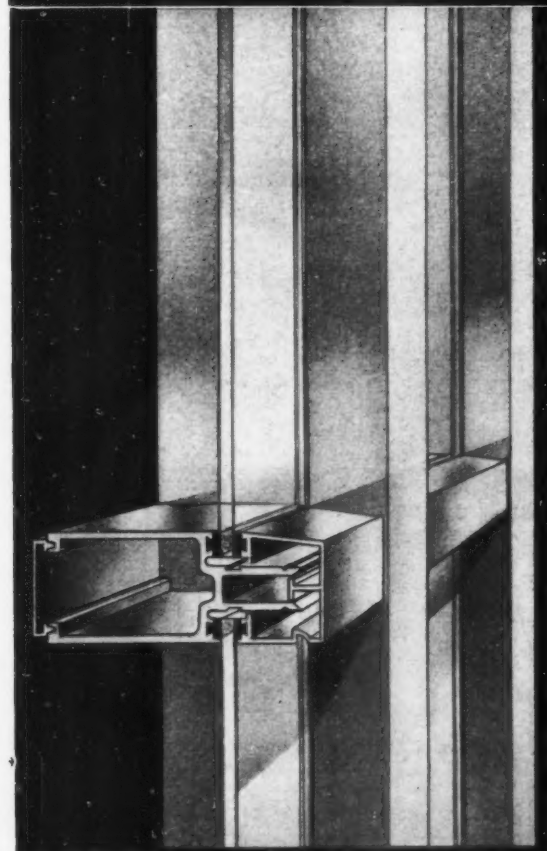
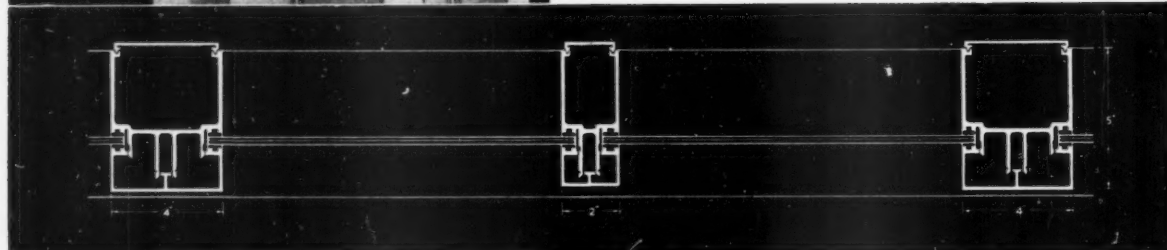
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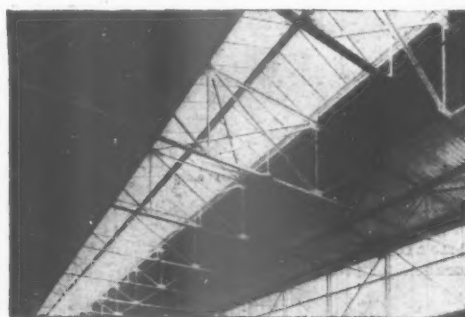
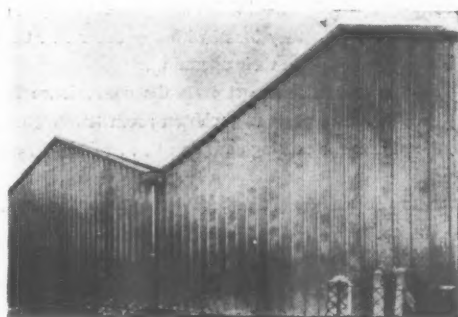
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*Photograph on the right is reproduced by courtesy of Birfield Tools Ltd., Coventry. Architects: S. J. Oldham & Partners, Coventry. Contractors: Rudders & Paynes Ltd. Steelwork: Boulton & Paul Ltd.*



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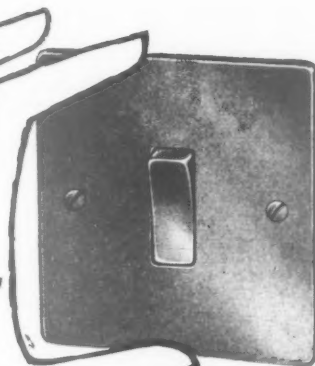


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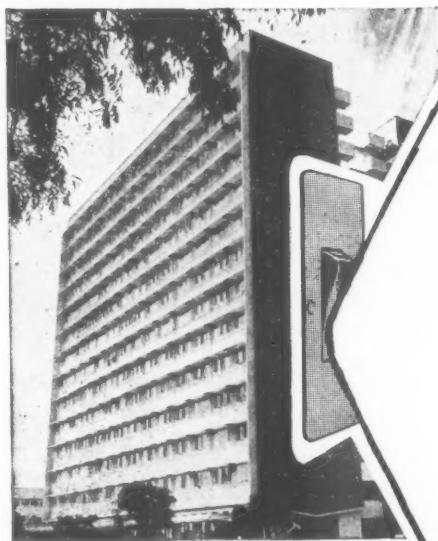
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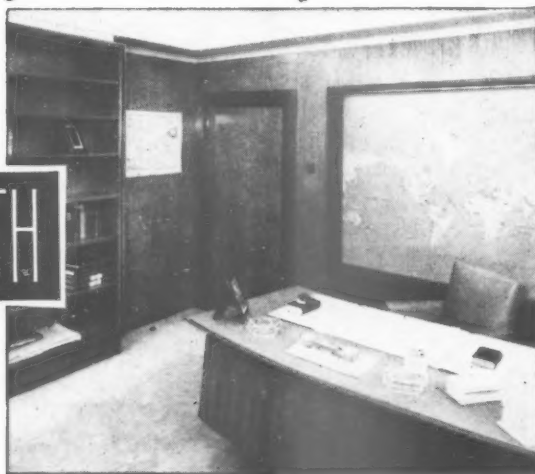
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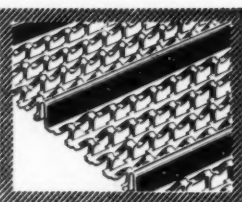
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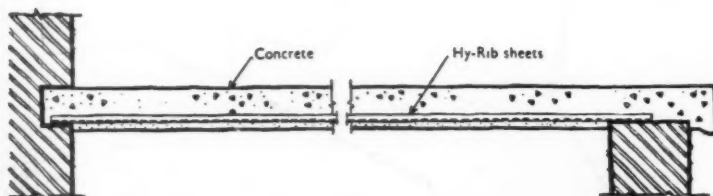




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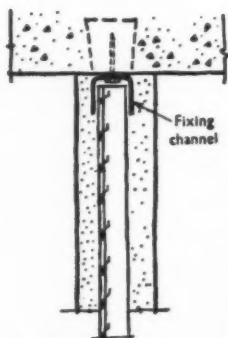
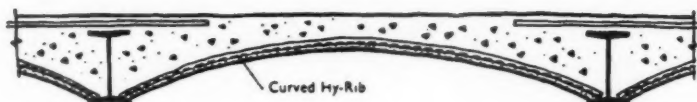


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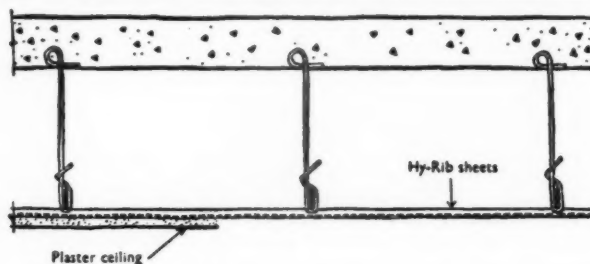
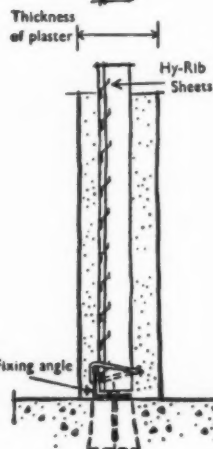
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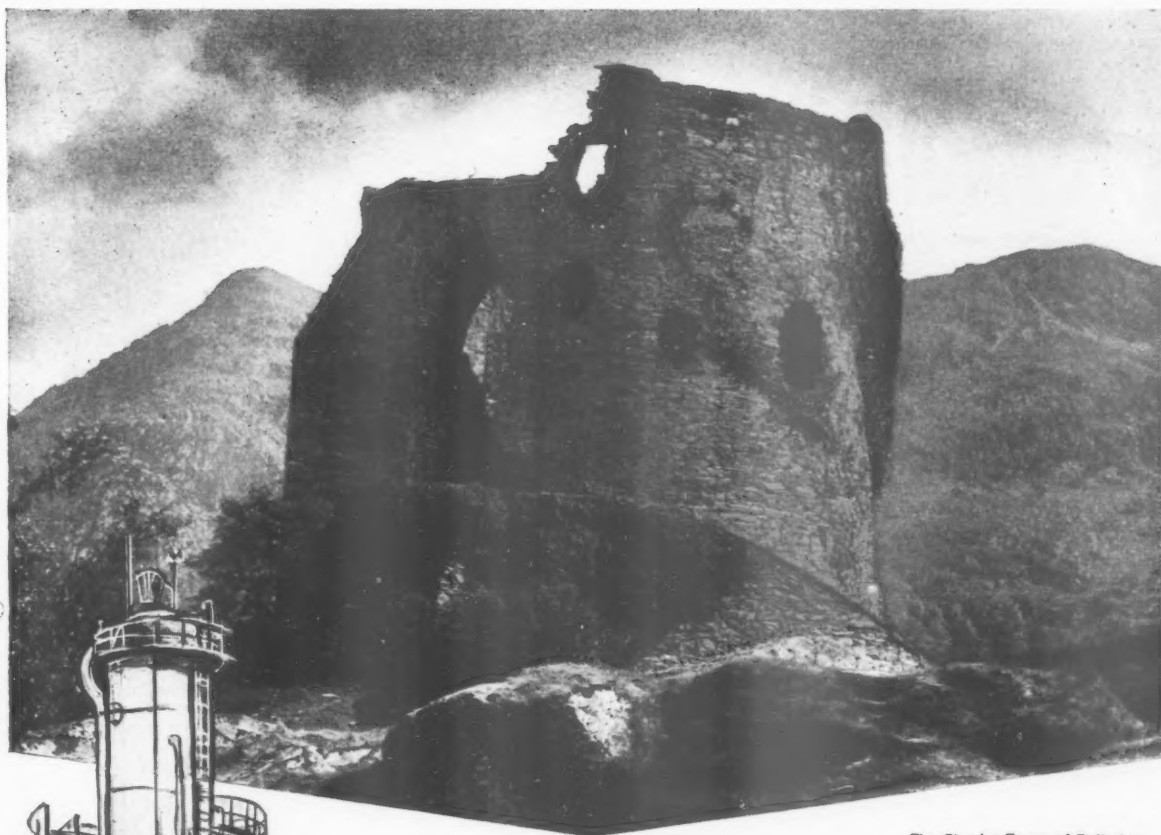


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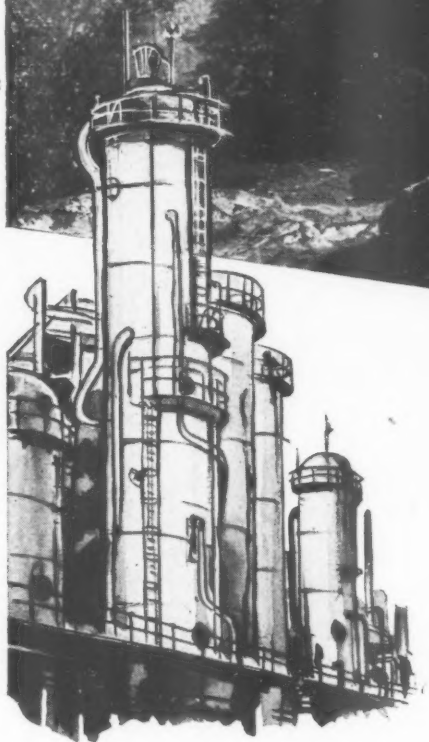
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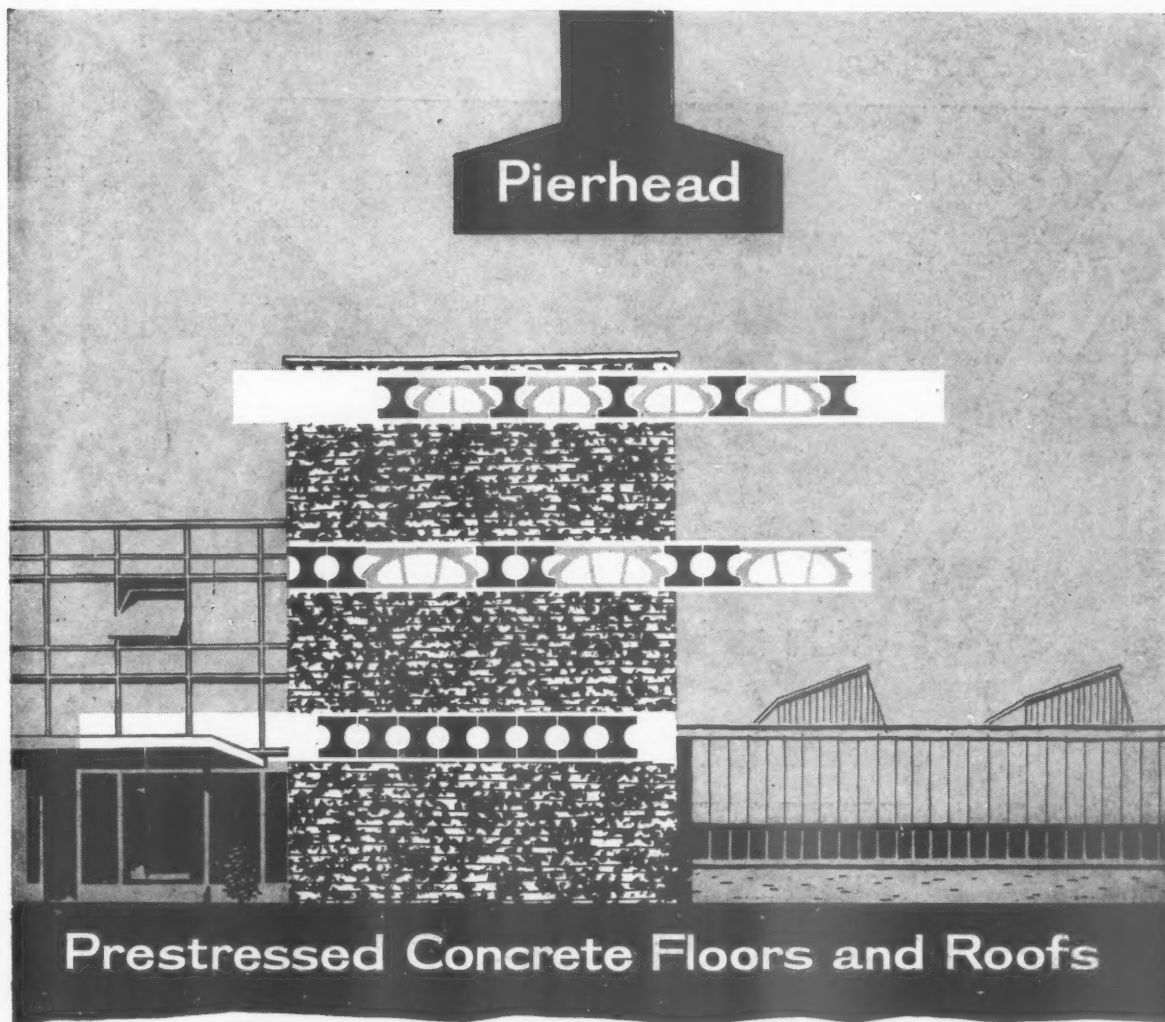


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**MAIN CONTRACTORS:** Messrs. A. Monk & Co., Ltd., Padgate, Warrington.

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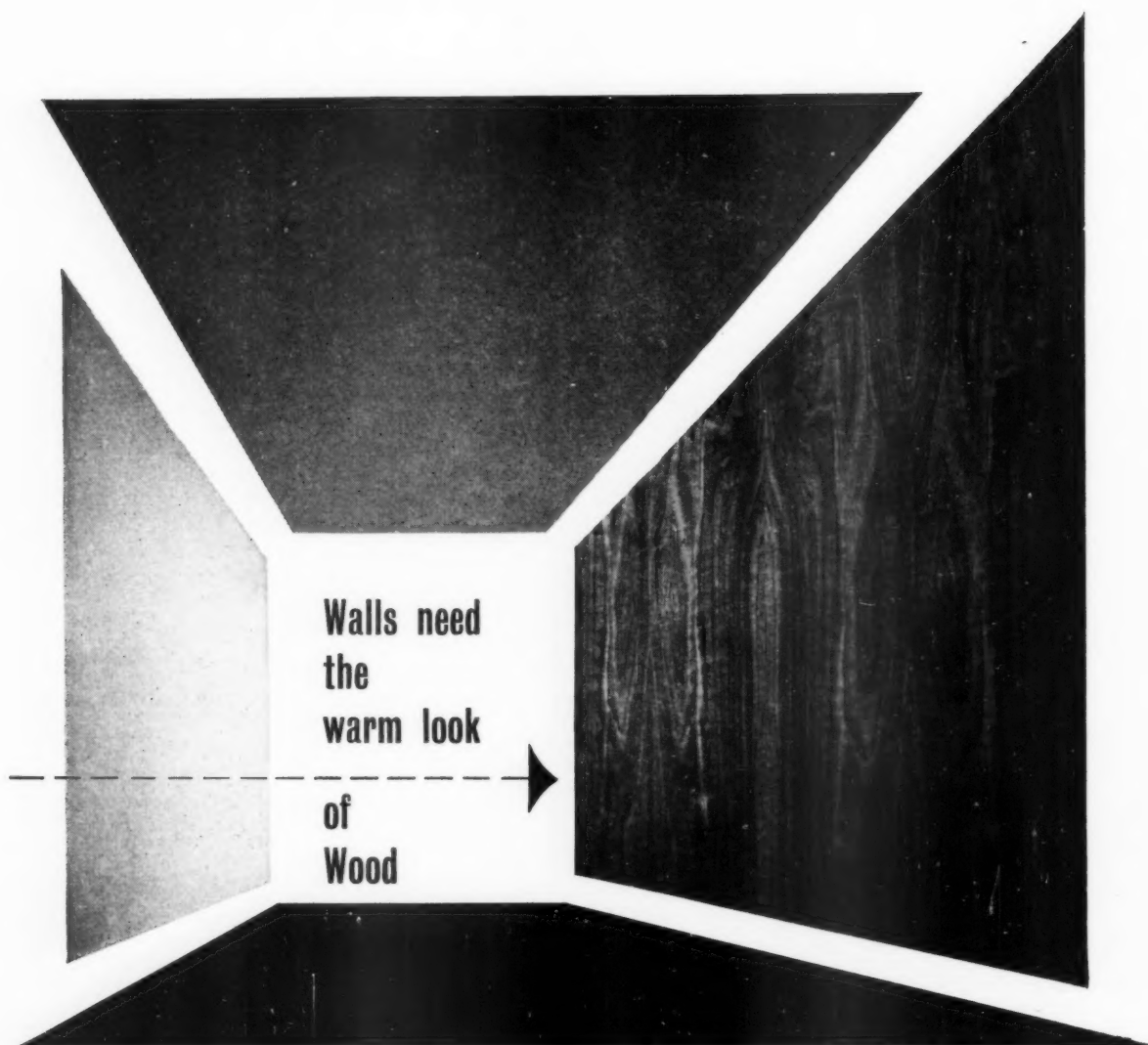
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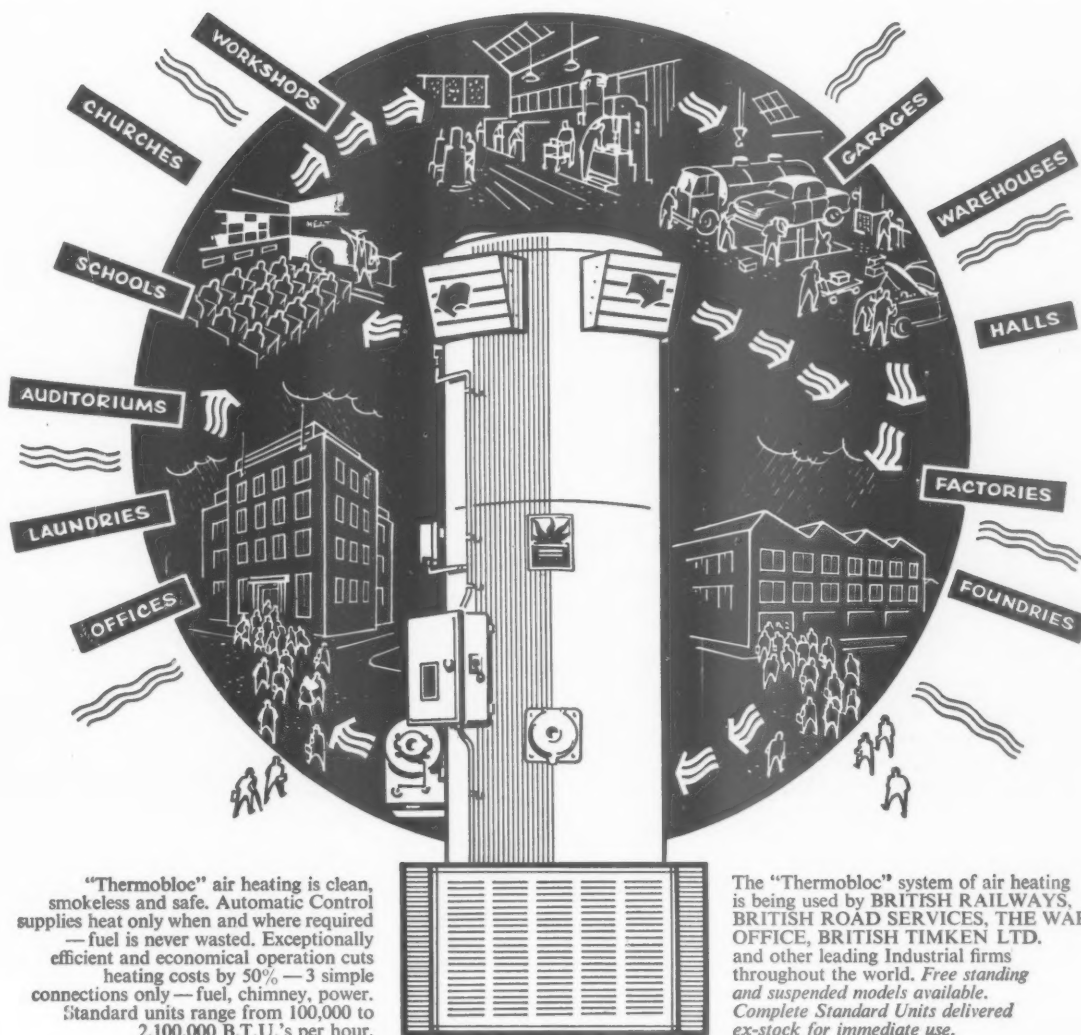
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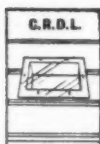
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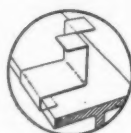
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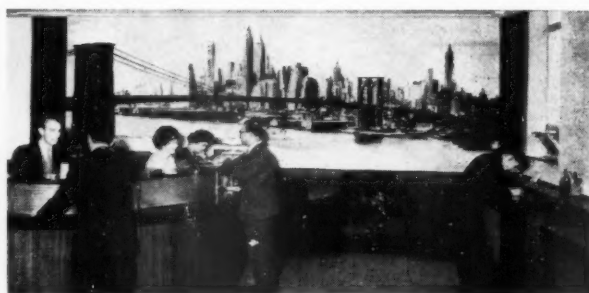
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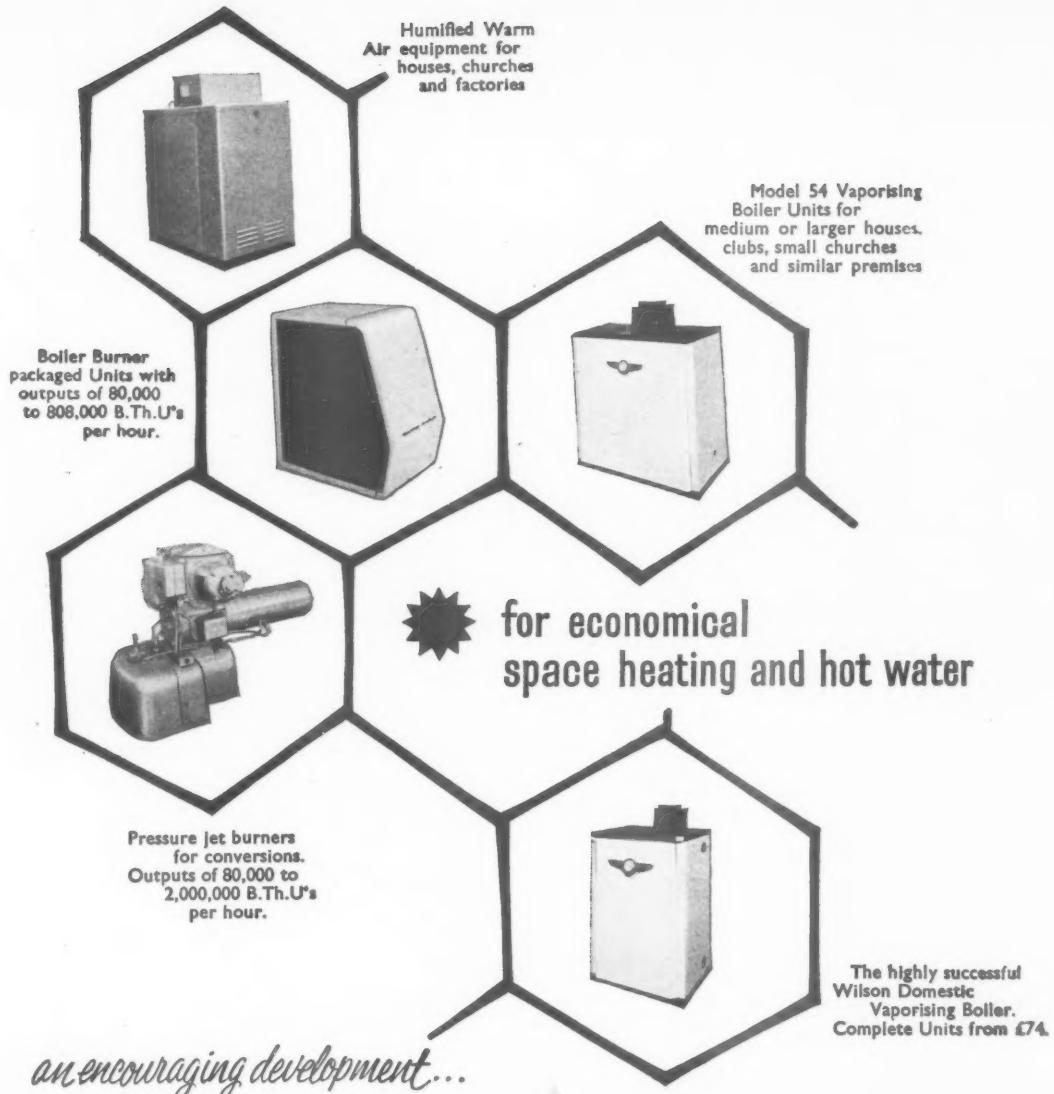
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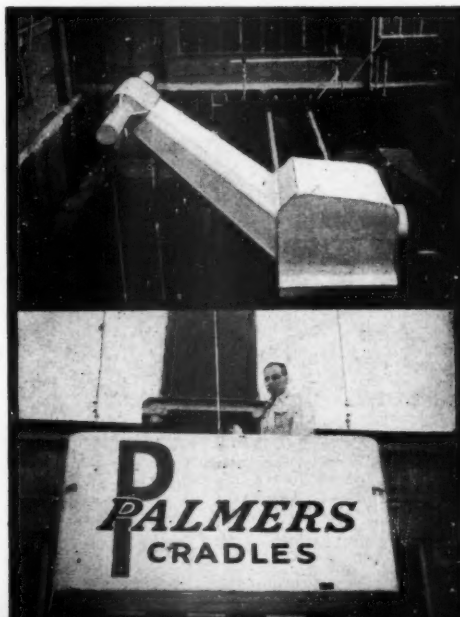
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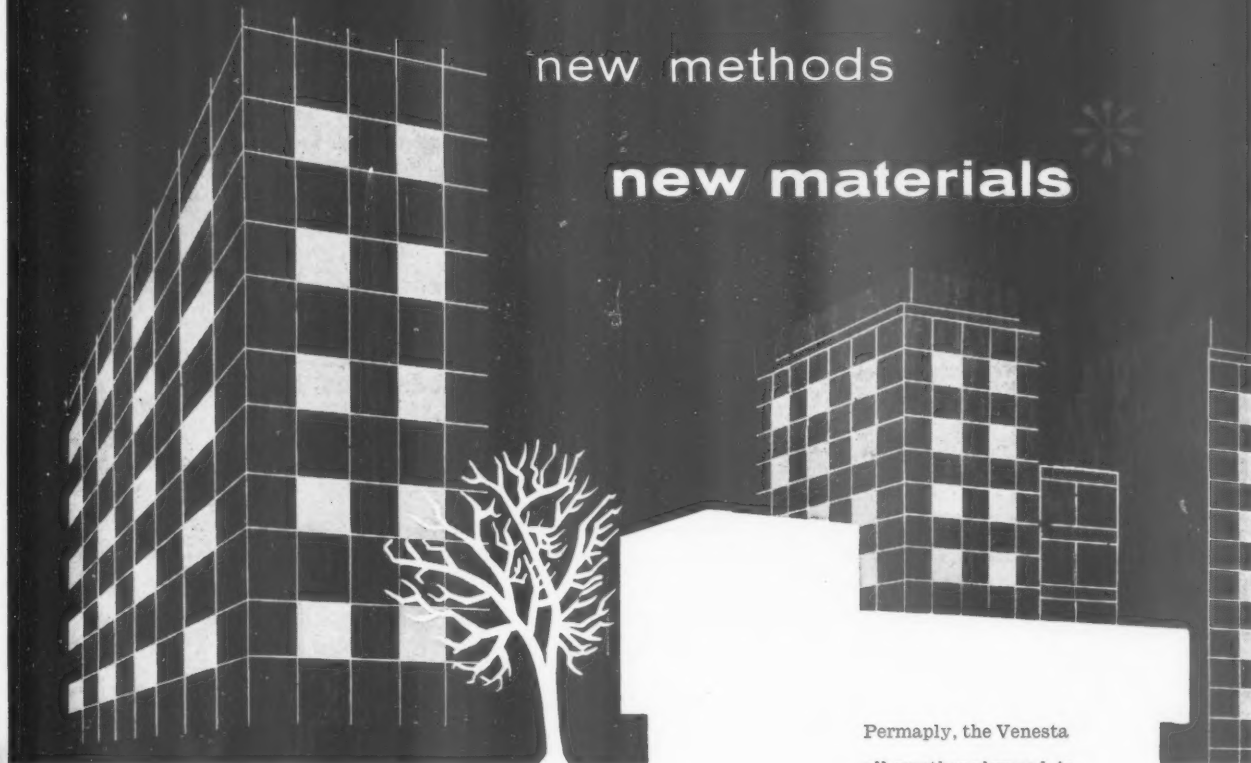
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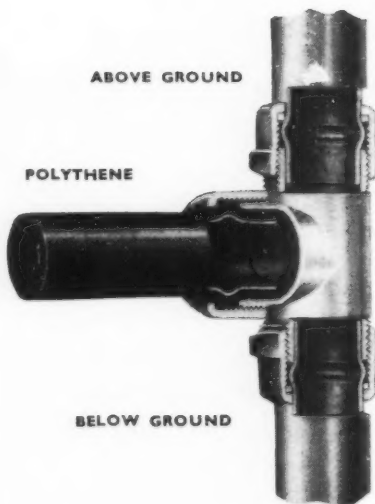
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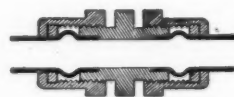
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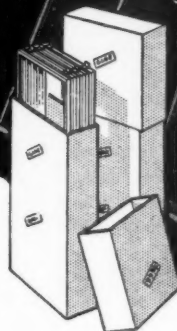
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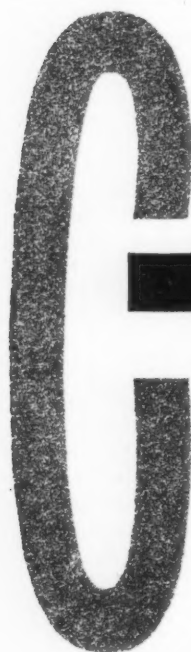
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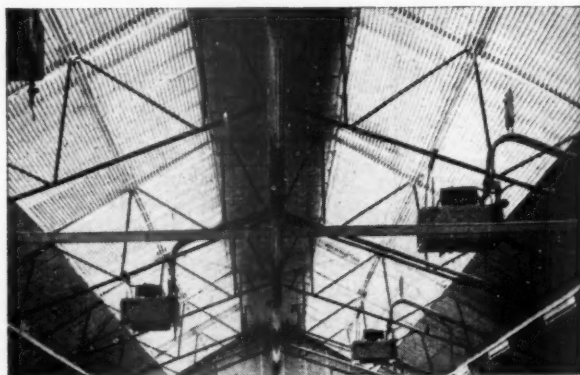
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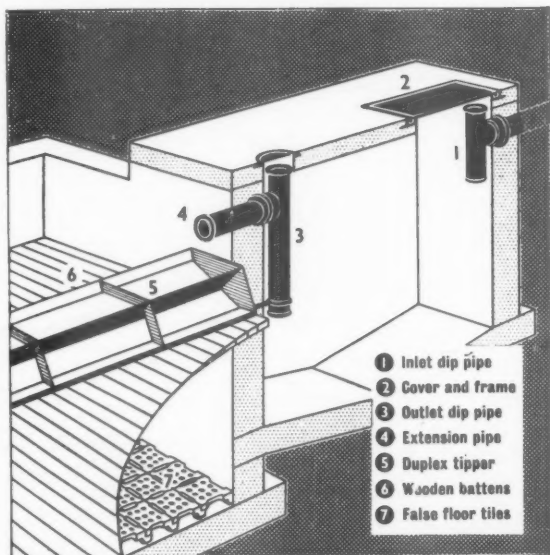
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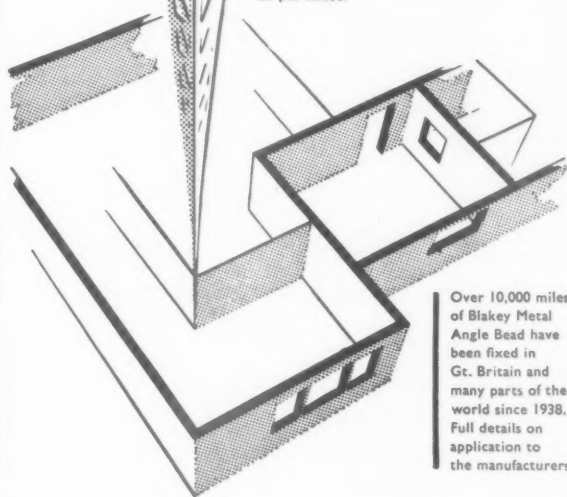
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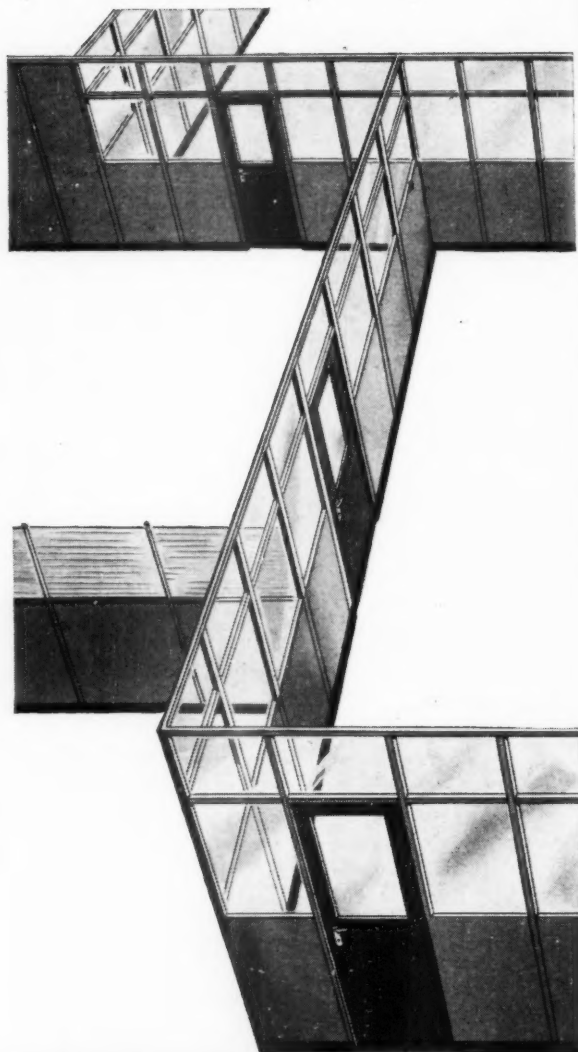
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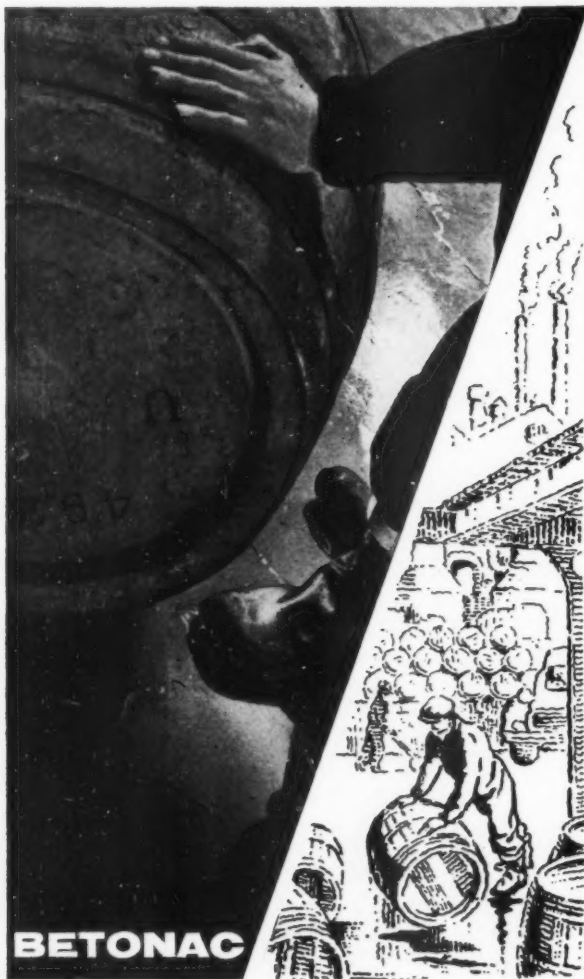
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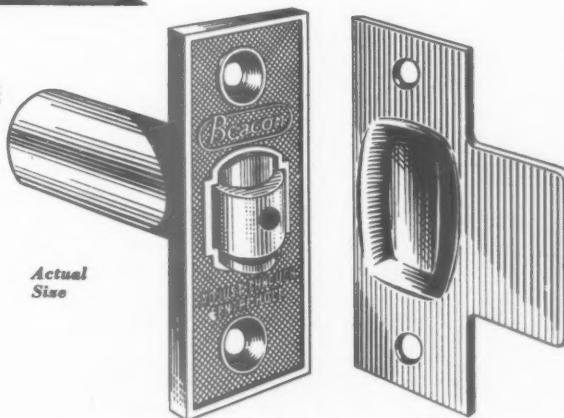
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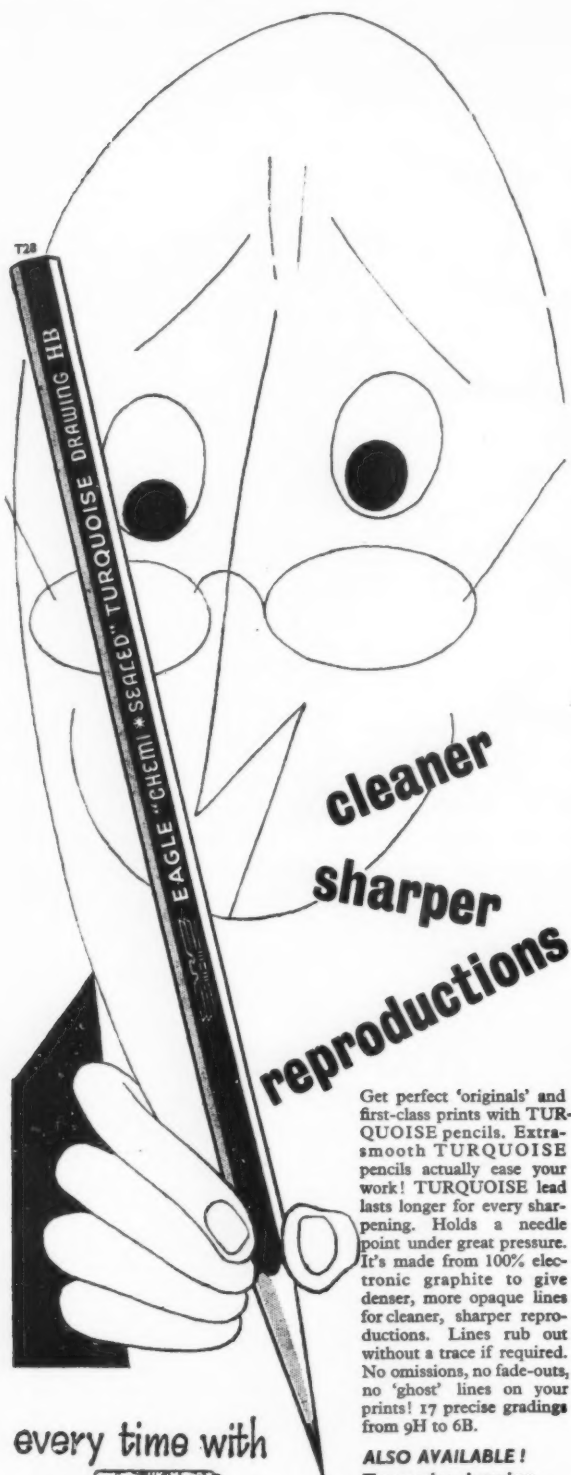
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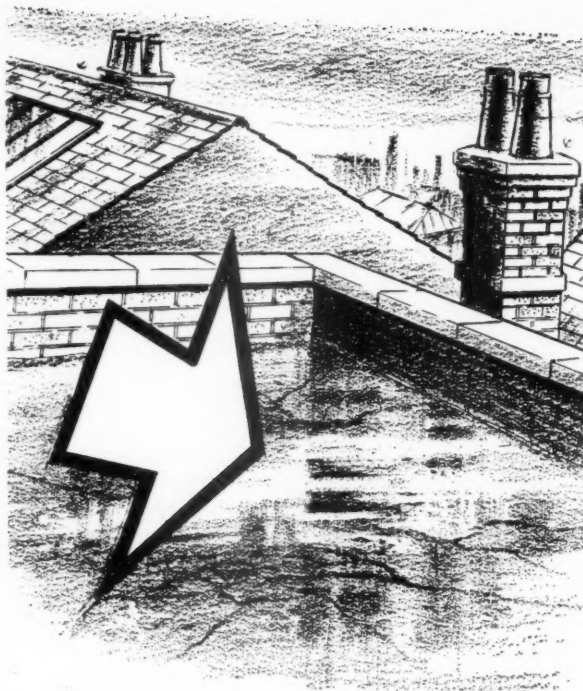
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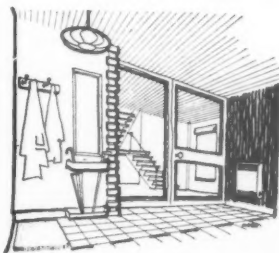
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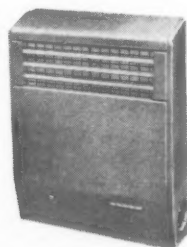
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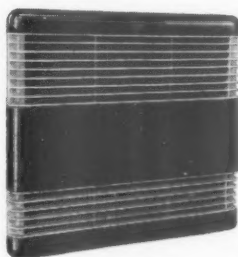
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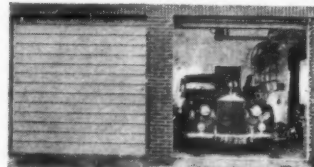
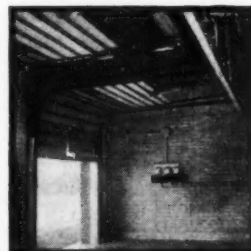
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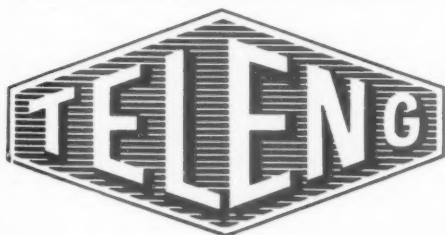
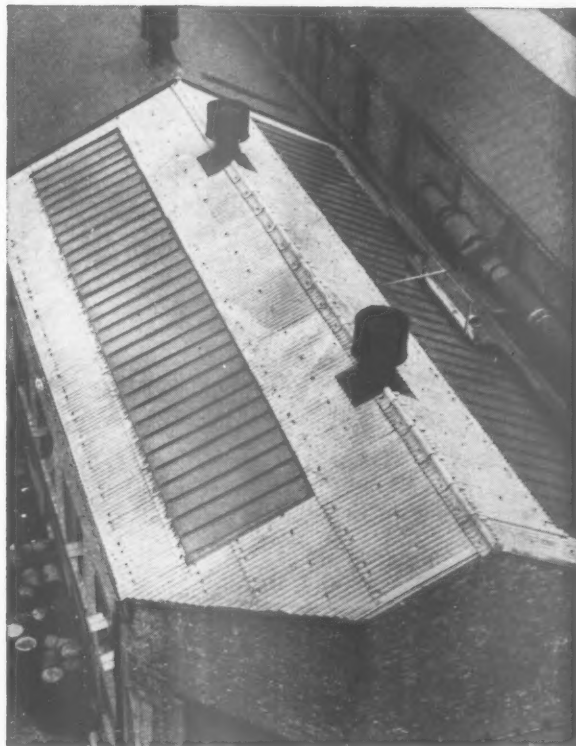
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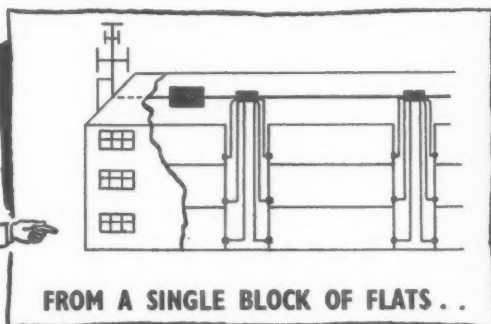
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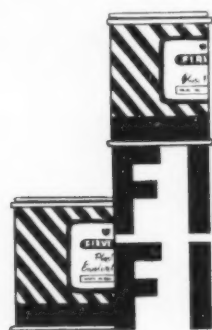
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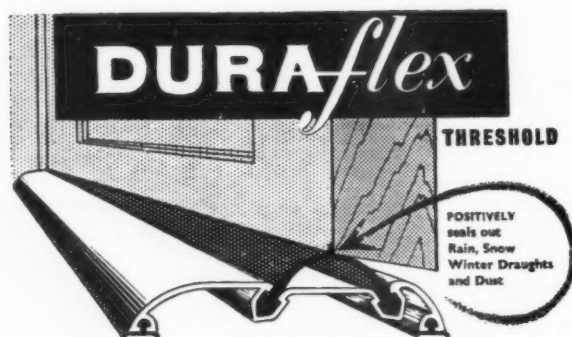
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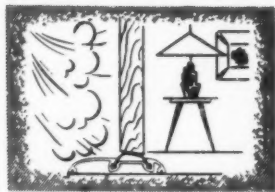
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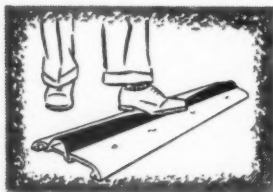
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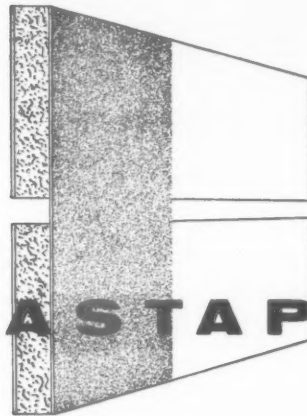
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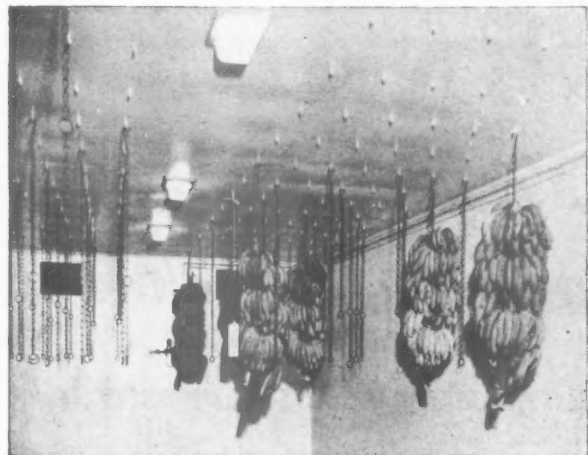
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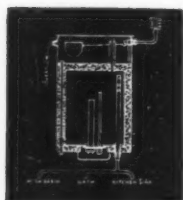
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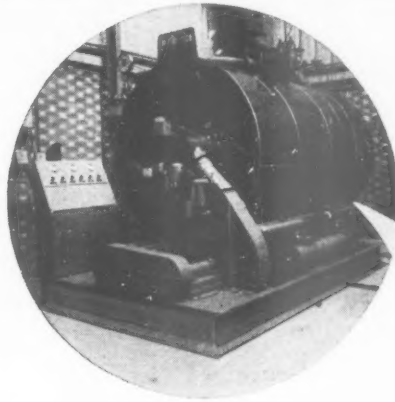
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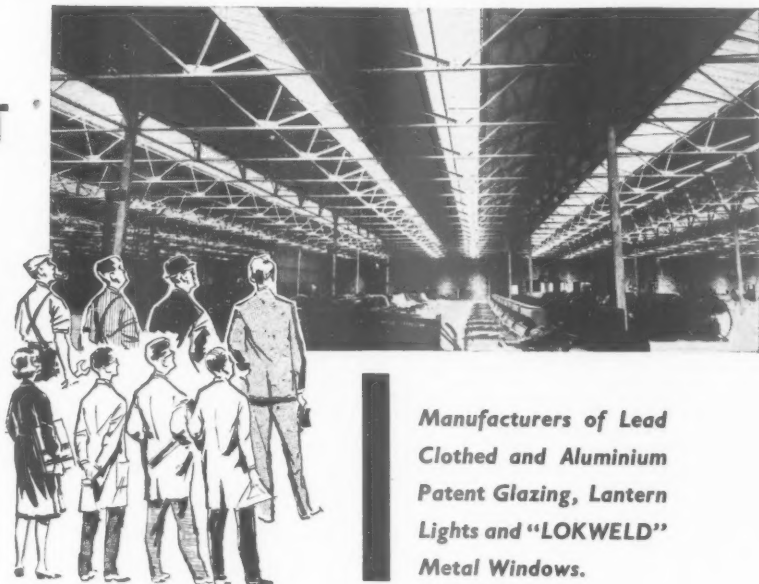
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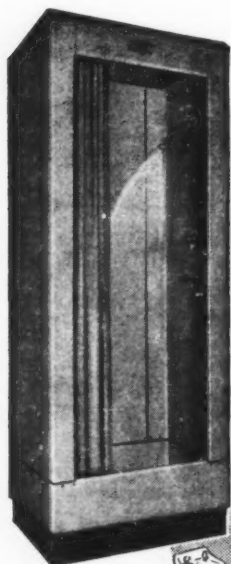
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## THE FUNCTIONAL TRADITION in early industrial buildings

by J. M. RICHARDS,  
photographs by ERIC DE MARÉ



Norwich Yarn Mill 1893

'Functionalism' is a term so closely associated with modern architecture that it is regarded as an invention of our own day. Yet, in fact, a tradition of functional building has persisted throughout history, to emerge most clearly immediately after the Industrial Revolution when, in response to the sudden expansion of trade and industry, the buildings described and illustrated here, were mainly built. Such is the thesis upon which the author enlarges in his Introduction; and he follows this up with a fascinating series of photographs specially taken by Eric de Maré (an architect well-known as an outstanding photographer) of warehouses, docks, naval dockyards, textile-mills, water-mills, bridges, breweries, maltings and others (many of which have never before been illustrated). These buildings, possessing architectural virtues which have never yet been properly recognised, are to be found all over Britain. Size 10 x 7½ ins. 200 pages with over 260 photographs. Price 36s. net. (Postage 1s. 9d.).

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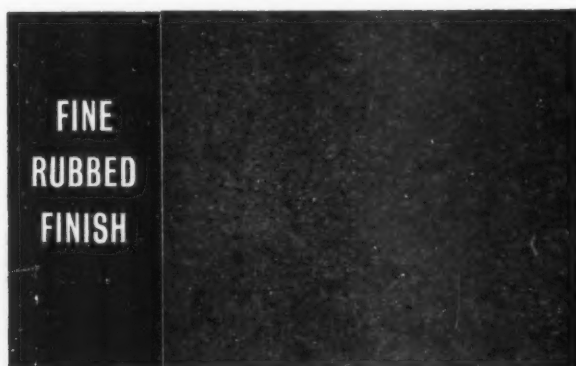
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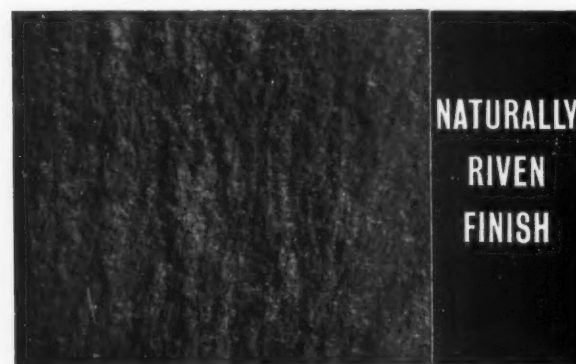
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## CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and should reach there by first post on Friday morning for inclusion in the following Thursday's paper.

Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

AIR-MAIL SERVICE available on request. In response to requests from a number of Overseas subscribers for air-mail delivery of Public and Official Appointment details and Other Appointments Vacant, we have been pleased to arrange that cuttings of all such classified advertisements appearing in the A.J., shall be despatched by air-mail on Wednesday of each week (one day prior to A.J. publication date). The cost of this special service to Overseas subscribers will be 5s. for four weeks (i.e. 3d. for each additional week) and prepayment should be sent by subscribers wishing to take advantage of this service. The charge we are making represents only the actual cost of the postage involved.

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New Scotland Yard,  
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4812

### COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE

**OFFICE OF THE COUNTY ARCHITECT**  
The Council require **SENIOR ARCHITECTS** in salary grades A.P.T. IV (£1,065-£1,220) and Special Grade (£785-£1,070) for their extensive and interesting building programme which includes schools, colleges, old people's and children's homes, clinics, ambulance, fire and police stations, and other public buildings. Architects appointed will be employed at the Central Office in Wakefield solely upon capital works and will be expected to handle building projects from sketch plans to completion.

Applications are also invited for the undermentioned posts at the Central Office:—  
(a) **JUNIOR ARCHITECTURAL ASSISTANTS**, Grade A.P.T. II, £765-£880.  
(b) **JUNIOR ARCHITECTURAL ASSISTANTS**, Grade A.P.T. I, £610-£765.

Applications to be submitted on forms to be obtained from and returned to the undersigned.

A. W. GLOVER, F.R.I.B.A.,  
County Architect.

"Bishopgarth,"  
Westfield Road,  
Wakefield.

5205

### LONDON COUNTY COUNCIL ARCHITECTS' DEPARTMENT QUANTITIES DIVISION

Applications are invited, particularly from newly qualified Surveyors, to fill vacancies affording an opportunity for interesting and rewarding careers in a variety of branches of quantity surveying. The positions include the following types of work:

- Junior taking-off/working-up.
- Approximate estimating and assisting in cost planning.
- Pricing bills of quantities for estimates comparable with tenders.
- Preparation and settlement of final accounts for major building contracts including interim valuations.
- Measurement of minor works, schedule accounts, etc.
- General technical duties and working-up.

Salaries up to £1,135 p.a.  
Application form and particulars from Hubert Bennett, F.R.I.B.A., Architect to the Council, County Hall, S.E.1, quoting ref. AB/EK/76/59 (1746).

5401

### COUNTY BOROUGH OF CARLISLE

Applications are invited for the appointment of **ASSISTANT ARCHITECT** in the City Surveyor's Department at a salary in accordance with the A.P.T. Special Scale, £785-£1,070.

Starting salary according to qualifications and experience. Applicants should be A.R.I.B.A. This post is in a section normally carrying out general work, but at present educational work is also being done.

The office is sectionalised, the architectural work being under the immediate control of the Deputy City Architect.

Forms of application from City Surveyor, 18, Fisher Street, Carlisle, returnable to him not later than 30th September, 1959.

H. D. A. ROBERTSON,  
Town Clerk.

5700

### BUILDING SURVEYORS

Architect's Department, London County Council, has vacancies in Building Regulation Division and District Surveyors' Service for work in connection with applications under the London Building Acts and Byelaws. District Surveyors' offices are in the Metropolitan Boroughs and work involves negotiations with developers and supervision of works in progress.

Up to £1,135 commencing according to qualifications and experience. Application form and particulars from Hubert Bennett, F.R.I.B.A., Architect to Council, EK/61/59, County Hall, S.E.1. (1906).

5554

### BUCKS COUNTY COUNCIL

Applications are invited for the appointment of an **ASSISTANT ARCHITECT** in the County Architect's Department on the Architects' Special Scale, £785-£1,070 p.a.

The appointment is superannuable and subject to medical examination.  
A weekly allowance of 25s. and return fare home once every two months may be paid for six months to newly appointed married officers of the Council unable to find accommodation.

Applications, on forms provided, must be returned by 10th October, 1959.

F. B. POOLEY,  
County Architect.

5732

County Offices,  
Aylesbury.

### RADNORSHIRE COUNTY COUNCIL COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of a **QUALIFIED QUANTITY SURVEYOR** (must be A.R.I.C.S.). Salary Grade A.P.T. IV (£1,065-£1,220). Required for preparation of Bills of Quantities, Estimates and Schemes, and Direct Labour Costing.

The appointment will be terminable by one month's notice in writing on either side and will be subject to the provisions of the Local Government Superannuation Acts and to the passing of a medical examination.

The Conditions of Service will be those of the National Joint Council for Local Authorities' Administrative, etc., Services. Travelling allowance on County Scale.

Applications, stating age, qualifications and experience, with the names of two referees, must be received by the undersigned not later than 30th September, 1959.

D. C. S. LANE,  
Clerk of the Council.

County Hall,  
Llandrindod Wells,  
Radnorshire.

5669

### CITY OF MANCHESTER

**CHIEF ASSISTANT PLANNING OFFICER** required in the City Surveyor and Engineer's Department at a salary within J.N.C. Scale "C" (£1,385/£1,620).

Candidates must be appropriately qualified by examination and must have had considerable experience in the Planning and Development work of a local authority.

This appointment offers practical experience on large scale projects, many of which are due to be carried out very shortly. Housing accommodation and removal expenses.

Applications, stating age, education, qualifications and experience, together with the names of three referees, to the Town Clerk, Town Hall, Manchester, 2, in an envelope endorsed "Chief Assistant Planning Officer," not later than 12th October, 1959.

5733

### EAST SUFFOLK COUNTY COUNCIL

Vacancies exist in the County Architect's Department for two **SENIOR ASSISTANT ARCHITECTS** on A.P.T. Grade V (£1,220-£1,375).

Applicants must be qualified architects with good general experience in design and construction, capable of taking charge of large projects with the minimum of supervision.

The starting salary in each case will be fixed according to qualifications and experience. Housing accommodation is not provided, but where a successful applicant is transferring from another local authority removal expenses will be paid, together with a settling in allowance of £25. In addition, the County Council are prepared to grant loans for the purchase of houses in approved cases.

The posts offer interesting and responsible work in connection with an extensive programme of educational and other public buildings.

The appointments are subject to the provisions of the Superannuation Acts and the selected candidates will be required to pass a medical examination.

Applications, stating age, qualifications, experience and present employment, together with copies of two recent testimonials, must be delivered to the County Architect, Mr. E. J. Cundiffe, A.R.I.B.A., County Hall, Ipswich, by Wednesday, 30th September, 1959.

5734

### LANCASHIRE COUNTY COUNCIL

(Fourth Advertisement)

Applications are invited for posts of **SENIOR ARCHITECTS, SENIOR OFFICERS, Scale "B"** (£1,320-£1,485).

Applicants should possess a keen sense of design, and sound working knowledge of modern techniques in building construction.

Successful applicants required to work at all stages in the drawing office, and in site supervision of major building projects.

Application Forms from the County Architect, P.O. Box 26, County Hall, Preston, quoting reference A/AJ.

Previous applicants should not re-apply.  
25th September, 1959.

5770

### COUNTY BOROUGH OF BARROW-IN-FURNESS.

### BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT

#### SENIOR ARCHITECT

Applications are invited from qualified Architects with suitable experience for the post of: **Senior Architect, Grade 4** (£1,065-£1,220). The commencing salary will be fixed within the grade.

Housing accommodation may be provided if required. The Department works a five-day week. Full details of the post, conditions of appointment and application forms, may be obtained from the Borough Engineer and Surveyor, to whom completed forms must be returned not later than Monday, 5th October, 1959.

LAWRENCE ALLEN,  
Town Clerk.

Town Hall,  
Barrow-in-Furness.

5682

### COUNTY BOROUGH OF DEWSBURY BOROUGH ARCHITECT AND BUILDINGS SURVEYOR'S DEPARTMENT

Applications are invited for the following appointments:—

- (a) **ASSISTANT QUANTITY SURVEYOR, A.P.T. Grade IV.**
- (b) **ASSISTANT ARCHITECT** (Education Section), Special Grade.
- (c) **TOWN PLANNING ASSISTANT**, Special Grade.

The commencing salaries will be fixed within the scope of the grades stated according to qualifications and experience, i.e., A.P.T. Grade IV, £1,065-£1,220; Special Grade, £785-£1,070. Applicants for (a) must have passed the Final examination of the R.I.C.S., for (b) the Final examination of the R.I.B.A., and for (c) the Final examination of the T.P.I.

Housing accommodation may be made available if required.

The appointments will be subject to one month's notice on either side and to the provisions of the Local Government Superannuation Acts.

Applications stating age, education, qualifications, full particulars of training and experience, together with copies of two recent testimonials, should be sent to the undersigned not later than Monday, 5th October, 1959, in envelopes endorsed "Appointment of . . ."

A. NORMAN JAMES,  
Town Clerk.

Town Hall,  
Dewsbury.  
14th September, 1959.

5762

### LANCASHIRE COUNTY COUNCIL

(Fourth Advertisement)

Applications are invited from Qualified Architects of initiative, keen on design and modern constructional methods, for a large and varied programme.

Permanent posts in A.P.T. Grade V (£1,220-£1,375). Starting point according to experience. Previous applicants should not re-apply.

Application Forms from the County Architect, P.O. Box 26, County Hall, Preston, quoting reference A/AJ.  
25th September, 1959.

5771

### BOROUGH OF EALING

Erection of Library adjoining Northfields Station, W.5.

Tender documents obtainable from Borough Surveyor, Town Hall, Ealing, W.5, upon payment of £5 returnable on receipt of a bona fide tender. Tenders must be delivered to the Town Clerk, Town Hall, Ealing, W.5, not later than 9 a.m. on the 5th October, 1959.

E. J. COPE-BROWN,  
Town Clerk.

5769

### CITY OF SHEFFIELD

#### CITY ENGINEER & SURVEYOR'S DEPARTMENT

#### PLANNING ASSISTANTS

A number of vacancies on the permanent staff of the City Engineer & Surveyor & Town Planning Officer (Henry Foster, M.A., M.I.C.E., M.I.Mun.E.) still remain unfilled; and applications are invited for the following appointments:—

- (a) **SENIOR PLANNING ASSISTANT**, Grade A.P.T. V (£1,220-£1,375 p.a.).
- (b) **GENERAL PLANNING ASSISTANTS**, Grade A.P.T. III (£880-£1,065 p.a.).

Candidates for these posts should hold a professional qualification. Commencing salary in each case will be in accordance with experience and qualifications.

Housing accommodation on a temporary basis may be considered and removal expenses reimbursed.

Superannuable posts, N.J.C. Conditions of Service, Medical Examination.

Applications, stating age, education and training, qualifications, experience, present and past appointments (with dates and salaries) and quoting the names of two referees should be submitted to the undersigned by the 5th October, 1959.

JOHN HEYS,  
Town Clerk.

Town Hall,  
Sheffield, 1.

5786

### THE ROYAL INFIRMARY OF EDINBURGH AND ASSOCIATED HOSPITALS ARCHITECTURAL ASSISTANT

Applications are invited from experienced candidates, preferably holding the Intermediate Certificate of the R.I.B.A. Starting salary £525-£605 per annum, according to age and experience. Apply to Personnel Officer, Royal Infirmary, Lauriston Place, Edinburgh, 3.

5596



# ap THE ARCHITECTURAL PRESS

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**HOUSE CONVERSION AND IMPROVEMENT** by Felix Walter, F.R.I.B.A. The first comprehensive illustrated book on the subject of conversion and improvement of all kinds of house property, this book is designed to be of practical help to architects, local housing authorities, and private owners. Specialist authors contribute chapters on law, finance, management and town planning. *Size 9½ ins. by 7½ ins. 258 pages including over 420 illustrations. 42s. net. postage 1s. 9d.*

**THE NEW SMALL HOUSE** by F. R. S. Yorke, F.R.I.B.A. and Penelope Whiting, A.R.I.B.A. Mainly a collection of photographs and plans of well-designed houses and housing schemes. Twenty-two bungalows are included. A short text accompanies each illustration and describes details of construction, equipment and materials; costs are given where possible. *Size 9½ ins. by 7½ ins. 152 pages, including 180 halftone and 175 line illustrations. Third and enlarged edition. 25s. net. Postage 1s. 4d.*

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# ap

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W. G. PLANT, Dip.Arch.(L'pool) F.R.I.B.A.,  
Regional Architect

## EXPANSION OF ARCHITECT'S DEPARTMENT

The Region comprises East London, the majority of the County of Essex and parts of the counties of Middlesex and Hertfordshire, with over 140 hospitals, clinics, etc., and the Board occupy modern offices adjacent to Paddington Station. The Board are engaged in an expanding programme of hospital development, including new hospitals, replanning of existing hospitals, the provision of outpatients' departments, operating theatres, laboratories, nurses' homes, staff houses, occupational therapy centres, patients' accommodation, etc., by new building or by converting and extending existing buildings, and the undermentioned appointments offer to Architects exceptional opportunities of gaining experience in designing and supervising the construction of hospital buildings, and to Quantity Surveyors experience in a wide, varied and interesting field; most of the building work is designed and supervised by the Board's own staff which is now being substantially enlarged, and those appointed will be expected to accept a considerable degree of responsibility.

Own car may be used for visiting hospitals, etc., for which adequate mileage allowance paid. Posts pensionable and prospects of advancement good. New entrants to the hospital service will be placed at the bottom of the appropriate scale, except in the case of assistants, where salary may be advanced beyond the minimum for those over 23 with appropriate professional experience. Previous hospital experience is NOT essential. ALL SALARY SCALES NOW BEING REVIEWED.

## PRINCIPAL ASSISTANT ARCHITECTS

Salary £1,245-£1,470. Applicants must be Registered Architects, having passed the requisite examinations, and must be good designers capable of preparing Working Drawings and Specifications for, and undertaking site supervision of, all types of building projects. Those appointed will be required to control the work of a group of Architects working as a team.

## SENIOR ASSISTANT ARCHITECTS

Salary £1,100-£1,295. Applicants must be Registered Architects having passed the requisite examinations, and must be good designers capable of preparing Working Drawings and Specifications for, and undertaking site supervision of, all types of building projects.

## ASSISTANT ARCHITECTS

Salary according to age and experience up to a maximum of £1,105. Applicants must be Registered Architects having passed the requisite examinations, and must be good designers, capable of preparing Working Drawings and Specifications for, and undertaking site supervision of, all types of building projects, under limited supervision.

## ARCHITECTURAL DRAFTSMEN

Salary £465 (at age 21 or over)-£590. Applicants should have had at least three years' experience in an Architect's Office and should preferably be intending to embark upon a Professional career. Some facilities may be provided for training.

## SENIOR ASSISTANT QUANTITY SURVEYORS

Salary £1,100-£1,295. Candidates must be Corporate Members of the Royal Institution of Chartered Surveyors (Sub. Div. III Quantities) or, in certain circumstances, Associate Members of the Institute of Quantity Surveyors. The duties comprise taking off and working up, specification writing, site surveys and measurements, valuations for certificates, preparation of estimates and final accounts. The work covers a wide and interesting field of traditional and modern construction, alterations and adaptations, drainage and site development schemes.

## ASSISTANT QUANTITY SURVEYORS

Salary according to age and experience up to a maximum of £1,105. Candidates must be Corporate Members of R.I.C.S. (Sub.Div. III Quantities) or in certain circumstances Associate Members of the Institute of Quantity Surveyors. The duties comprise site measuring, taking off and estimating (all under supervision), working up and final accounts.

## QUANTITY SURVEYING ASSISTANTS

Salary £565 (at age 21 or over)-£795. Applicants must have passed the Intermediate examination of the R.I.C.S. (Sub.Div. III Quantities). The duties comprise generally assisting in the Quantity Surveyor's Section, both in the office and on building sites, with some opportunity for taking off, under supervision. Some facilities may be provided for training.

Applications giving age, present salary, qualifications and experience (with dates) together with the names of three referees to the Secretary, North East Metropolitan Regional Hospital Board, 40, Eastbourne Terrace, London, W.2, within 14 days. 5754

## SOUTH EASTERN ELECTRICITY BOARD

ARCHITECTURAL ASSISTANT-East Sussex &amp; S.W. Kent Headquarters.

Salary £885-£960 p.a. in accordance with NJC grade 5. Superannuable. Applicants should have had experience in the preparation of drawings and specifications for building and civil engineering works connected with the Board's showrooms, offices, depots, operational and other buildings.

Applications, quoting A.J. and naming two referees, on forms from East Sussex & S.W. Kent Manager, Seaboard, Westlarks, Willington Road, Eastbourne, by 7th October, 1959.

GEORGE WRAY,  
Secretary.  
5815

PADDINGTON BOROUGH COUNCIL  
(A) BUILDING SURVEYING ASSISTANT.  
£640-£795, with knowledge of building construction; experienced in repair, adaptation, conversion of civic and residential properties; capable of preparing plans, specifications, estimated costs and supervision; R.I.C.S. Intermediate student preferred (quote A.428).

(B) DRAUGHTSMAN, £640-£795, suitable for probationer member R.I.B.A. (quote A.429). Starting salaries according to qualifications and experience. Applications (quoting reference No.) should state age, experience, present and past appointments, names of two referees, and should reach me by 2nd October, 1959.

W. H. BENTLEY,  
Town Clerk.  
Town Hall,  
Paddington, W.2. 5773

BOROUGH OF SOUTHGATE  
BOROUGH ENGINEER AND SURVEYOR'S  
DEPARTMENT

ARCHITECTURAL ASSISTANTS  
Applications are invited for the following appointments in the Department of the Borough Engineer and Surveyor:-

(a) A.P.T. Special Grade, £785-£1,070, plus London weighting.  
(b) A.P.T. Grade II, £765-£880, plus London weighting.

The posts are permanent and superannuated and the starting salary will be fixed in accordance with qualifications and experience. In the case of appointment (a) applicants should be Associates of the Royal Institute of British Architects.

Forms of application may be obtained from the Borough Engineer and Surveyor and should be returned to the undersigned not later than 12 noon on Monday, 12th October, 1959.

Canvassing, directly or indirectly, will be a disqualification.

GORDON H. TAYLOR,  
Town Clerk.  
Town Hall,  
Palmer Green,  
London, N.13.  
September, 1959. 5776

## STAINES URBAN DISTRICT COUNCIL

ENGINEER AND SURVEYOR'S DEPARTMENT  
Applications are invited for the following appointment:-

ARCHITECTURAL ASSISTANT, Special Grade, £785-£1,070, plus London weighting.

Applicants must have had good experience in architectural design and building work under construction. Other things being equal, preference will be given to applicants who have passed the examination for Associateship of the R.I.B.A.

Application forms may be obtained from the Engineer and Surveyor, Shortwood House, 240, London Road, Staines, and must be returned to him in suitably endorsed envelopes, not later than 5 p.m. on 9th October, 1959.

F. ENTWISTLE,  
Clerk of the Council.  
"Elmsleigh,"  
73, High Street,  
Staines, Middlesex. 5777

## RE-ADVERTISEMENT

## COUNTY BOROUGH OF WEST HAM

## BOROUGH ARCHITECT AND PLANNING

## OFFICER'S DEPARTMENT

## CHIEF ASSISTANT PLANNING OFFICER

£1,320-£1,485 p.a.  
APPLICATIONS INVITED from TOWN PLANNERS possessing drive, initiative, and ability, preferably with experience in replanning urban areas, to be in charge of the Town Planning Section of the Department.

## APPLICATION FORMS AND PARTICULARS from:

THOMAS E. NORTH, O.B.E., F.R.I.B.A.,  
Dist.L.P., M.P.F.I.,  
Borough Architect and Planning Officer,  
70, West Ham Lane, Stratford, E.15,  
returnable by 12th October, 1959. 5778

## ARCHITECT'S DEPARTMENT,

## SALOP COUNTY COUNCIL

Applications are invited from qualified Architects for the post of SENIOR ASSISTANT ARCHITECT on A.P.T. Grade IV (£1,065-£1,220 p.a.). A disturbance allowance or weekly separation allowance will be payable to a married man taking up this appointment. Conditions of service and application forms obtainable from

RALPH CROWE, A.A. Dipl., A.R.I.B.A., A.M.T.P.I., COUNTY ARCHITECT, COLUMB HOUSE, LONDON ROAD, SHREWSBURY. Closing date 8th October, 1959. 5819

## CWMBRAN DEVELOPMENT CORPORATION

## APPOINTMENT OF ASSISTANT ARCHITECT,

## A.P.T. III/IV

Applications are invited for the above superannuable post in my Department in the salary range £880-£1,220 with a commencing salary according to qualifications and experience.

Candidates should be Associates of the R.I.B.A. with suitable office experience and should have had good experience in shop design construction and layout and Town Centre development.

Housing accommodation will be made available to the successful applicant if needed.

Applications stating age, experience, details of present and former employment (together with applicable salaries) and the names and addresses of two referees must reach the undersigned by first post on Monday, 12th October, 1959.

J. C. P. WEST, A.R.I.B.A., M.T.P.I.,  
Chief Architect.  
Victoria Street,  
Cwmbran, Mon. 5790

## COUNTY BOROUGH OF GREAT YARMOUTH

## GENERAL ARCHITECTURAL ASSISTANT

APPLICATIONS are invited for the appointment of a General Architectural Assistant in the Borough Engineer's Department at a salary in accordance with A.P.T. Grade II (£765-£880).

Applicants must have passed the intermediate R.I.B.A. examination and be experienced in the design, construction and supervision of public buildings, housing and flats.

The Council is unable to offer housing accommodation.

The appointment is subject to one month's notice on either side, to the Local Government Superannuation Acts, and to the passing of a medical examination.

Applications in an envelope endorsed "General Architectural Assistant" giving names and addresses of two referees and stating age, professional training, qualifications, experience and present and previous appointments, with salaries, must reach me not later than Friday, 9th October, 1959.

FARRA CONWAY,  
Town Clerk.  
Town Hall,  
Great Yarmouth.  
17th September, 1959. 5838

## KIRKBY URBAN DISTRICT COUNCIL

## ENGINEER AND SURVEYOR'S DEPARTMENT

Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT. Salary within the range General Division to A.P.T. Grade II according to qualifications and experience. In the event of an applicant being appointed who has passed the intermediate R.I.B.A. examination or its equivalent, the minimum salary will be in accordance with A.P.T. Grade II.

The Urban District Council was formed on the 1st April, 1958, and considerable development is contemplated, including Town Hall, Community Centres, Central Depot, Sports Pavilions, etc., and the successful applicant will obtain wide experience.

Applications for the post, giving details of age, education, experience, qualifications, together with the names of two referees, to the undersigned not later than 5th October, 1959. Canvassing disqualifies. Relationship to be disclosed.

W. BYRON,  
Clerk of the Council.  
Kirkby Hall,  
Hall Lane,  
Kirkby,  
Nr. Liverpool. 5823

## BOROUGH OF ROYAL TUNBRIDGE WELLS

## ARCHITECTURAL ASSISTANT

Applications are invited for the appointment of Architectural Assistant at a salary in accordance with Grade A.P.T. II (£765-£880 p.a.).

Applicants for the appointment should have had suitable training and must be good draughtsmen of R.I.B.A. Intermediate examination standard.

The appointment will be subject to the provisions of the Local Government Superannuation Acts, the National Scheme of Conditions of Service and the passing of a medical examination. Housing accommodation will be provided if requested.

Applications, giving details of experience and qualifications, together with the names and addresses of two persons to whom reference may be made, are to be submitted to the Borough Surveyor and Waterworks Engineer, not later than noon on Saturday, 3rd October, 1959.

M. J. H. GIRLING,  
Town Clerk.  
Town Hall,  
Tunbridge Wells. 5833

## CITY OF STOKE-ON-TRENT

## CITY ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:-

(a) ASSISTANT ARCHITECTS (Final R.I.B.A.),  
Special Scale, £785-£1,070.

(b) ARCHITECTURAL ASSISTANT (Intermediate R.I.B.A.), A.P.T. I. £610-£765.

Applications, stating date of birth and giving full particulars of education, training and past and present posts held, should be forwarded to J. R. Pigott, T.D., F.R.I.B.A., City Architect, Kingsway, Stoke-on-Trent, not later than Thursday, 8th October, 1959.

HARRY TAYLOR,  
Town Clerk.  
5834

ARCHITECTURAL DRAFTSMEN required for London Office with general experience, but particularly of work of an industrial character, and ability to undertake site surveys, levelling, etc. Commencing salary £662 per annum. Applications giving age, experience and qualifications to Personnel Officer, British Road Services Limited, 222, Marylebone Road, London, N.W.1. 5812

## LANCASHIRE COUNTY COUNCIL

## PLANNING ASSISTANT required at ST.

ANNES (£610-£1,070 per annum). Applicants should possess a qualification in planning or architecture. Experience of development control would be an advantage. Commencing and maximum salary according to qualifications and experience.

The successful candidate will be required to own a motor car and use it for official purposes. Applications giving age, qualifications, present appointment, experience and two referees to the County Planning Officer, East Chiff County Offices, Preston, by 30th September, 1959. 5828

**STAFFORDSHIRE COUNTY COUNCIL**  
**APPOINTMENT OF COUNTY ARCHITECT**  
Applications are invited for the appointment of County Architect, which position will become vacant on the 1st July, 1960, at a commencing salary of £3,695 per annum rising by annual increments of £135 to £4,010 per annum.

Candidates must be members of the Royal Institute of British Architects and have had considerable Local Government experience both administrative and technical. Experience with a Direct Works Department will be an advantage.

The appointment is subject to the provisions of the Local Government Superannuation Acts; the National Scheme of Conditions of Service; a satisfactory medical examination, and to three months' notice on either side.

The successful candidate will not be permitted to engage in private practice, but may be required to undertake architectural work for Joint Authorities at the discretion of the County Council.

Applications must be on the Council's application form which can be obtained from the undersigned and applications must reach him not later than 31st October, 1959.

T. H. EVANS,

Clerk of the County Council.

County Buildings, Stafford. 5785

**BOROUGH OF ERITH**

(a) 2 SENIOR ENGINEERING ASSISTANTS, A.P.T. IV.

(b) 2 SENIOR ENGINEERING ASSISTANTS, Special Grade.

(c) 2 JUNIOR ENGINEERING ASSISTANTS, A.P.T. I.

(d) 2 ARCHITECTURAL ASSISTANTS, A.P.T. I

Applications are invited for the above appointments in accordance with the grades shown, plus London weighting.

The Council has an extensive programme of capital works, including main drainage and highway improvements.

Provision of housing accommodation will be considered in connection with appointments a and b.

The Grade IV appointments are temporary but of at least two years duration and with the possibility of permanency.

Applications, with copies of two recent testimonials, should be delivered to the Borough Engineer and Surveyor, not later than Monday, 5th October, 1959.

J. A. CROMPTON,

Town Clerk.

Town Hall, Erith, Kent. 5806

**THURROCK U.D.C. (Engineer and Surveyor's Dept.)** require **ARCHITECTURAL ASSISTANT** under Architect to the Council. Salary: A.P.T. I/II: £610-£880 p.a. Good architectural experience necessary. Applicants must be capable of preparing working drawings in all categories and should have passed the Intermediate Examination of the R.I.B.A. The Council have interesting projects in hand, including an Indoor Swimming Bath. Appointment pensionable. Applications, stating age, qualifications, and experience, and quoting three referees, to Clerk of the Council, Council Offices, Grays, Essex, by 6th October, 1959. Canvassing disqualifies. Relationship with Members or Senior Officers of the Council must be disclosed. 5782

**NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD**  
**ASSISTANT BUILDING SURVEYOR**  
**REQUIRED**

Applicants must be Associate Members of R.I.C.S. and capable of preparing working drawings and specifications for alteration works, site surveying and levelling, etc.

Salary on scale rising to £1,055 plus £20-£50 London weighting. Whitley Council conditions. Superannuable.

Apply stating age, qualifications (with dates) and experience, together with the names and addresses of two referees to: Secretary, North West Metropolitan Regional Hospital Board, 40, Eastbourne Terrace, W.2, by 6th October, quoting reference 770. 5794

**SURREY COUNTY COUNCIL**

Applications invited for the following appointments:-

1. **SPECIAL GRADE** (£785-£1,070 p.a. plus £30 p.a. London Allowance). This grade is particularly suitable for newly qualified Assistants.

2. **GRADE II** (£765-£880 p.a. plus up to £30 p.a. London Allowance, according to age).

**ARCHITECTS.** Must be A.R.I.B.A. and experienced in design and detailing.

**BUILDING SURVEYORS.** Preference given those who have passed Intermediate R.I.C.S. (Bldg. Sub-Div.). Capable drafting specifications in all trades, preparation schedules of dilapidated estimates for general maintenance works and surveys of properties.

Candidates will be appointed at the appropriate point within the scale according to age and ability.

Full details, present salary and three copy testimonials to County Architect, County Hall, Kingston, as soon as possible. 5790

**BOROUGH OF WREXHAM**  
**BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT**

Applications are invited for the following appointments:

(a) **TWO ENGINEERING ASSISTANTS.** Salary Special Grade (£785-£1,070 p.a.). Candidates must have passed the Final examination of the Institute of Municipal Engineers and have a general experience of Municipal Engineering.

(b) **ONE ARCHITECTURAL ASSISTANT.** Salary A.P.T. Grade II (£765-£880 p.a.). Candidates to have Intermediate R.I.B.A. or equivalent.

Housing accommodation provided if required. Applications stating age, experience, qualifications, etc., and the names of two Referees to the undersigned not later than first post on Monday, 12th October, 1959.

PHILIP J. WALTERS,

Town Clerk.

Guildhall, Wrexham. 5825  
15th September, 1959.

**LONDON TRANSPORT** require **ARCHITECTURAL ASSISTANTS.** Candidates must be qualified to R.I.B.A. Intermediate standard and have previous office experience.

Salary range £814 p.a.-£979 p.a. Free travel; Medical examination; 38-hour week; Contributory Superannuation Scheme; no Saturdays; good Dining Club, and sports facilities.

Please apply to Staff and Welfare Officer, (F/EV 752/1), London Transport Executive, 55 Broadway, London, S.W.1. 5796

**HARLOW DEVELOPMENT CORPORATION**

Applications are invited from candidates interested in taking part in New Town work for the following appointments:-

Post A. **ASSISTANT ARCHITECT.** £610-£765.

B. **ASSISTANT ARCHITECT.** £765-£880.

C. **ASSISTANT ARCHITECT.** £880-£1,065.

D. **ASSISTANT ARCHITECT.** £1,065-£1,220.

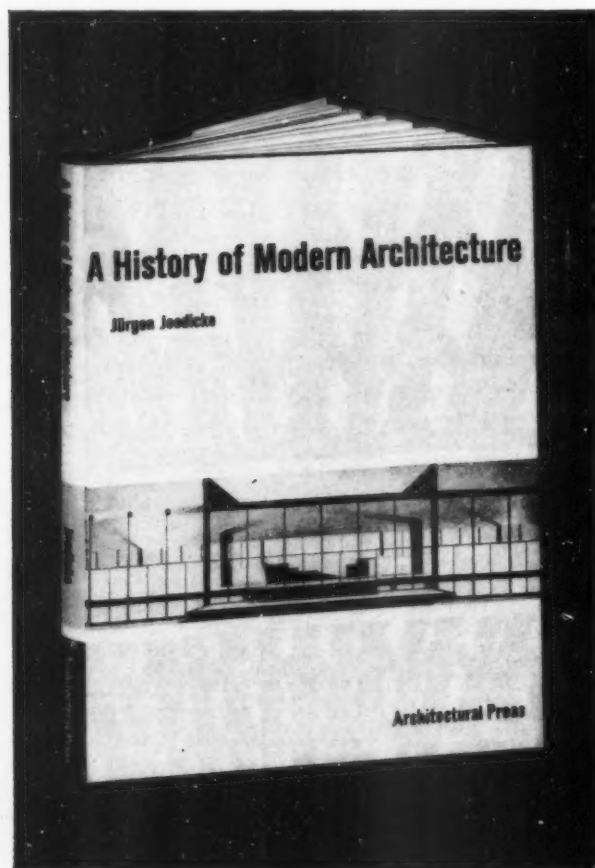
Candidates for posts A and B should have minimum R.I.B.A. qualifications or equivalent, and candidates for posts C and D should be A.R.I.B.A. or equivalent.

Housing provided in suitable cases. Applications within fourteen days to the General Manager, Terlings, Harlow, Essex. 5753

**LONDON COUNTY COUNCIL**

**ARCHITECTURAL ASSISTANTS** required up to £895. Full and interesting programme of houses, flats, schools and general buildings.

Application form and particulars from Hubert Bennett, F.R.I.B.A., Architect to Council, AR/EK/43/59, County Hall, S.E.1. (923.) 5809



## A History of Modern Architecture

READY SHORTLY

by Jurgen Joedicke, translated by James Palmes

HITHERTO there has been no general history of the modern movement in architecture available in English. Professor Joedicke's book thus satisfies an important need, but it goes further than this—it is more comprehensive, yet more compact and better illustrated than any of the general histories of modern architecture available in other languages. His approach is straightforward and imposes no personal system on the material, accepting the classic distinction between the age of the Pioneers, and the age of the Masters, so that the contributions of famous architects can be found where one would expect to find them. In addition to the dominating personalities of the movement, Professor Joedicke, who teaches at the celebrated Technische Hochschule in Stuttgart, also gives a full account of the part played by new structural materials and new spatial concepts in the creation of the new architecture, and also surveys the contributions made by the leading architectural countries of Europe and the Americas. He thus covers the field from Joseph Paxton to Felix Candela in time, from Helsinki to Rio de Janeiro and Los Angeles in space.

Size 10½ by 7½ ins. 244 pages with 400 halftones and 50 line illustrations, a bibliography and index. 45s. net, postage 2s. Od.

The Architectural Press,  
9-13 Queen Anne's Gate, Westminster, SW1.



## COVENTRY

Imaginative ARCHITECTS required for several new interesting projects.

Posts within the salary ranges:—

- (a) £1,220—£1,375.  
(b) £1,065—£1,220.

(Indicate for which applying)

Housing accommodation in approved cases. Removal expenses loan available. Five-day working week. Application forms from: Department of Architecture and Planning, Council Offices, Earl Street, returnable by 8th October. 5783

## BURGH OF KILMARNOCK

BURGH ARCHITECT'S DEPARTMENT  
Applications are invited for the following appointments:—

(a) SENIOR ASSISTANT ARCHITECT, qualified and experienced, on salary scale for Professional Assistants, £795—£1,075 per annum with placing on that scale up to the maximum according to experience. Council house available for letting if necessary.

(b) Experienced ARCHITECTURAL ASSISTANT, on Grade Executive IV, £805 × £20 to £865 per annum.

The posts are subject to N.J.C. conditions, Local Government Superannuation Acts and the passing of a medical examination.

Applications giving full details of training and experience, along with copies of recent testimonials, should be lodged with the Burgh Architect, 64, Bank Street, Kilmarnock, within ten days of the publication of this advertisement.

W. L. WALKER, Town Clerk.

Council Chambers, Kilmarnock.

September, 1959.

5808

## AIR MINISTRY WORKS DESIGNS BRANCH

requires in London and Provinces ARCHITECTURAL ASSISTANTS experienced in planning/preparation of working drawings and details for permanent and semi-permanent buildings.

Salaries in LONDON up to £900 for Grade III and £1,055 for Grade II p.a. for men and £865/£1,088 for women. Somewhat lower in PROVINCES. Starting pay dependent on age, qualifications and experience. Long term possibilities with promotion and pension prospects.

Five-day week, three weeks three days leave a year initially. Overseas tours (for men) for which special allowances are payable. Normally natural born British subjects. Write stating age, qualifications, employment details including type of work done, to any Employment Exchange quoting Order No. Kings Cross 1769.

4873

## LONDON COUNTY COUNCIL

ARCHITECTS (up to £1,135) required for Housing, Schools and General Divisions of Architect's Department. Full and varied programme of new work including schools, multi-storey flats and town development. Starting salaries according to qualifications and experience.

Particulars and application form from Hubert Bennett, F.R.I.B.A., Architect to Council, EK/77/59, County Hall, S.E.1. (1879.) 5551

## Architectural Appointments Vacant

4 lines or under, 2s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. 6d.

H. A. HALPERN & ASSOCIATES require immediately ASSISTANT for their London Office. Intermediate standard and must have at least three years' office experience and a good knowledge of building construction. Apply, stating experience and salary required, to H. A. Halpern & Associates, Cumberland Chambers, 7, Edgware Road, Marble Arch, London, W.2. Tel.: AMBassador 2471. 5536

ARCHITECTURAL STAFF urgently required in all Grades, salary range £500—£1,000. Write Morgan and Carn, A.A.R.I.B.A., 12, Grand Avenue, Hove 3, Sussex. 5556

SENIOR ASSISTANT required immediately. Good salary, prospects and working conditions. Small Office, general practice. Apply to Herbert J. Stribling, F.R.I.B.A., 26, Bath Road, Slough, Bucks. Telephone 22071. 5545

TOOLEY AND FOSTER require a JUNIOR ARCHITECTURAL ASSISTANT of about intermediate standard for interesting and varied general work with opportunities for taking responsibility.

Salary will be according to age and length and type of experience. Five-day week, voluntary superannuation scheme. Apply by letter only to Midland Bank Chambers, Buckhurst Hill, Essex. 5551

MORRISON AND PARTNERS require a SENIOR ASSISTANT for their Sheffield Office. Applicants must be qualified and capable of handling large projects at all stages. This is a small office where enthusiasm and interest in architecture are appreciated. Salary up to £1,200 per annum, according to experience and ability. Apply to: 15, Northumberland Road, Sheffield, 10. 5552

JERSEY CHANNEL ISLANDS office requires an A.R.I.B.A. with at least 5 years' experience. Write giving particulars, salary required etc., to A. Le Sueur, A.R.I.B.A., 6, York Street Chambers, Jersey, C.I. 5555

ARCHITECTURAL ASSISTANT, London. Final standard. Industrial and commercial. Progressive and interesting. Salary according to experience and ability. Box 4329.

LEWELLYN SMITH AND WATERS require Senior and Junior ASSISTANTS for a widely varied programme of work. Salary according to experience. Please write stating qualifications, experience and age to 103, Old Brompton Road, S.W.7. 4622

ERIC FIRMIN & PARTNERS require ASSISTANTS for interesting work on industrial and commercial projects. Five-day week. Luncheon vouchers. Salary according to experience. Please apply 5, Holborn Circus, CITY 8811. 6260

REQUIRED in Oxford office of W. H. Watkins, Gray & Partners, ASSISTANT to work on advanced Technical Laboratory. Apply in writing to 57, Catherine Place, S.W.1, or ring for appointment Vic 7761. 3965

EXPERIENCED ARCHITECTURAL ASSISTANTS required, one Qualified and one of at least Intermediate standard, for Branch Office, Birmingham, engaged on a varied and interesting programme of Commercial projects. The positions are pensionable and a five-day week is in operation. Applications, giving full particulars, to G. S. Hay, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 1, Balloon Street, Manchester, 4. 4397

SEVERAL Senior and Intermediate ARCHITECTURAL ASSISTANTS are required for commercial projects including Hotel, Theatre and extensive development schemes of offices and light industry, etc., in London Architect's office. Holiday arrangements will be recognized. Five-day week. Salary according to experience. Telephone City 8811. 4151

SOUTH KENSINGTON Architects' Office require experienced Intermediate ASSISTANT with good ability in design. Apply: E. Mountford Pigott & Partners, Kensington 1249. 4448

ARCHITECTURAL ASSISTANT, Intermediate standard. Busy London office. Good prospects. Box 4330.

ARCHITECTURAL ASSISTANT required from about intermediate standard to recently qualified, for interesting and varied work in practice mainly concerned with commercial projects. Five-day week. Congenial working conditions. Salary by arrangement. Apply in writing giving full particulars, age, to J. Alfred Harper & Son, Union Chambers, 63, Temple Row, Birmingham. 5089

EXPERIENCED ASSISTANT required for busy West-End practice with ability to take charge of jobs and accept responsibility. Salary according to experience and qualification. Phone: MUSEum 9693. 5438

VACANCY in October for Experienced and Reliable Assistant. Small but busy office in East Suffolk. Variety of work, chiefly domestic. Full particulars and salary required to Box 5412.

DIAMOND, HODGKINSON & PARTNERS require experienced SENIOR and JUNIOR ASSISTANTS of contemporary outlook for varied work, including Housing and Estate Development, Flats, Churches, Interiors and Industrial Design projects. Write with details of age, experience and salary required, to 50, Baker Street, London, W.1. 5447

ARCHITECTS' ASSISTANTS required immediately. Intermediate/Final standard. Salary according to experience. Five-day week. Staff Pension Scheme. Application in writing, giving full details of age, experience, and salary to Personnel Department, British Home Stores Ltd., 129, Marylebone Road, London, N.W.1. 5502

J. M. AUSTIN-SMITH & PARTNERS, 29, Sackville Street, London, W.1, have vacancies for qualified ARCHITECTURAL ASSISTANTS with office experience. Opportunities for designing and taking responsibility in running and supervising contracts. Salary according to age and experience, but in range of £800—£1,000. Please apply in own handwriting. 4834

EXPERIENCED ASSISTANTS required, one qualified and one Intermediate/Final E.I.B.A. standard, for interesting development work on industrial and commercial projects. Sound knowledge of building construction and good draughtsmanship essential. First class working conditions in new office building. Five-day week. Luncheon vouchers and superannuation scheme. Apply giving full details to Staff Architect, Percy Bilton Ltd., Bilton House, 54/55, Uxbridge Road, Baling, W.5. 5532

SENIOR ARCHITECTURAL ASSISTANT required immediately. The applicant will work under the direction of the District Architect on the design, preparation of drawings, details, etc., for the Company's New Retail Stores and Extensions, and be responsible for his jobs from initial stages to completion. Apply stating age, experience and salary required to the District Architect, T. W. Woolworth & Co. Ltd., Architect Department, 47/49, King Street, Dudley, Worcestershire. Telephone: Dudley 55051. 5597

ARCHITECTURAL ASSISTANT, Intermediate to Final standard, required for interesting work in West End Office. Plenty of scope for responsibility and experience. Telephone for appointment to MAYfair 9554 or write with particulars to Box 5609.

ARCHITECTURAL ASSISTANT, capable of leading a team and working up principally domestic and other tropical designs, possibility of overseas service. Tel.: WELbeck 1681. 5765

SENIOR and JUNIOR ASSISTANTS urgently required by expanding old established firm of architects in West End of London. Contemporary outlook and enthusiasm essential. Apply with details of experience and salary required to Box 5607.

THREE ARCHITECTURAL ASSISTANTS, Intermediate to Final standard, preferably with office experience. Ring for appointment. Donald Forrest, A.R.I.B.A., 304, Romford Road, E.7. Telephone: MARYland 8111/3. 5534

ASSISTANTS  
Department of the Appleby-Frodingham Steel Company for work on expansion and development projects embracing office, amenity, laboratory and various classes of industrial buildings.

Applicants should be competent draughtsmen with a sound knowledge of modern building techniques and services.

The positions are permanent for suitable applicants and a pension scheme is in operation.

Applications, giving age, experience and salary required, should be made in writing to the Employment Officer, Appleby-Frodingham Steel Company, Scunthorpe, Lincs. 5707

GLASGOW OFFICE has vacancies for Final and Intermediate standard for varied and interesting work. Five-day week and bonus scheme operated. Please write giving details to Baron Bercott, A.R.I.B.A., A.M.T.P.I., 118, Blythwood Street, Glasgow, C.2. 5743

EXPERIENCED ASSISTANT required by Architect in East Sussex. Pleasant small office and congenial working conditions. Salary range £500-£750 according to ability. Box 5779.

KERN, ARCHITECTURAL ASSISTANTS  
Final and Intermediate standards with desire for responsibility wanted immediately. Only good draughtsmen welcome. Site experience available, as well as drawing office. Five-day week. Details to Felix Walter, F.R.I.B.A., 4, Raymond Buildings, Gray's Inn, W.C.1. or phone HOLborn 0535/6. 5784

ARCHITECTURAL ASSISTANT, Inter. R.I.B.A. standard required. Good draughtsmanship essential. Apply in writing, giving details of training, experience and salary required to Vigers & Co., Chartered Surveyors, Architects, 4, Frederick's Place, Old Jewry, E.C.2. 5764

ARCHITECT'S ASSISTANT required for the London Office of a firm of Architects with interests throughout the country, must be of Intermediate E.I.B.A. or R.I.C.S. standard with office experience. Superannuation scheme. Apply to: Cotton, Ballard & Blow, 5, Baker Street, London, W.1. WELbeck 1904. 5553

BURLES & NEWTON require ARCHITECTURAL ASSISTANT at their Southend Office. Age 20-25. Intermediate/Final standard. Apply 35/38, County Chambers, Weston Road, Southend (Southend 41540), or telephone London Office (Chancery 9538). 5595

TRIPE & WAKEHAM, Chartered Architects, require ASSISTANTS with three to five years office experience for work on interesting projects at home and overseas. Telephone WELbeck 7744, or write 16, Fitzhardinge Street, W.1. for an appointment. 5597

ARCHITECTURAL ASSISTANT aged 25-35 for small progressive, well equipped office. Businesslike draughtsman to take charge of jobs from sketch to completion. Imaginative, inventive and contemporary outlook essential. Pleasant office, canteen, contributory pension scheme. Age, experience and salary to E. A. Wingrave, A.R.I.B.A., Company Architect, Groves & Whitnall, Regent Road Brewery, Salford, 5. 5729

DARTFORD. A SENIOR ASSISTANT is required for busy Architect's office. Excellent prospects for right person, preferably qualified, who must be experienced and capable of carrying out projects to completion. Write in full details of experience and salary required to Box 5721.

SENIOR ARCHITECTURAL ASSISTANT required for work in Company's Architects Department. Qualifications desirable but not essential. Interesting industrial and commercial work. Experience required. Good prospects. Permanent position. Apply: P. L. Howells, A.R.I.B.A., Chief Architect, Cow & Gate Ltd., Central Buildings, North Street, Guildford, Surrey. 574

ARCHITECTURAL ASSISTANT required for busy London office. Intermediate standard or higher. Salary by arrangement. Box 5713.

ARCHITECTS DEPARTMENT OF F. W. WOOLWORTH & CO. LIMITED, shortly moving from West End to Administrative Offices in N. O. B. U. R. Y. require the following Staff:

SENIOR ASSISTANTS (INTER: R.I.B.A. OR EQUIVALENTS).

JUNIOR ASSISTANTS.

5-Day week. Canteen facilities. Superannuation Scheme.

Apply in writing stating age, experience and Salary required. Box 5730.

ASSISTANT ARCHITECT-DESIGNERS required. Two Senior, Two Junior, for West End practice Portman Square area. Salary £650-£900. Work mainly interiors for new buildings. Apply Box 5573.



**CONTEMPORARY** Office requires enthusiastic ASSISTANTS willing to accept responsibility. Several vacancies are open and applications are welcomed from both qualified and student members. The office is in pleasant out of town surroundings and works a five-day week. Salaries by arrangement. Apply with details to Morrison & Partners, St. Edmunds House, 103, Nether Road, Derby. 5672

**THE** Council of Kumasi College of Technology require immediately two first class ARCHITECTURAL ASSISTANTS for work in their London Office until January, 1960. Top salaries paid. Forms of application may be obtained from The London Representative, 29, Tavistock Square, London, W.C.1. 5671

**ASSISTANT** required in Country Office, Cotswold area: approximately Intermediate standard. Good opportunity for one primarily interested in Conversion and Restoration, etc., of old buildings. Box 5666.

**ARCHITECTURAL ASSISTANTS** who have Intermediate and wish to carry out good design at the right salary, write or phone Godmark & Miller-Williams, Tubwell Row, Darlington. 5630

**ASSISTANT** of R.I.B.A. Intermediate or Final standard. Write, stating age, experience and salary required, to Gunton & Gunton, F.R.I.B.A., F.R.I.C.S., Empire House, St. Martin's le Grand, E.C.1. 5635

**UNIOR ARCHITECTURAL ASSISTANTS** required in busy office handling a wide variety of interesting work including commercial, domestic, school and Brewery projects. Please apply stating experience and salary required to: Porters & Richardson, Lloyds Bank Chambers, Peterborough. 5748

**OSCAR GARRY & PARTNERS** require Qualified and Intermediate standard ARCHITECTURAL ASSISTANTS for office and flats developments. Salary according to experience and qualifications. Ring WELBECK 2507 for an appointment. 5703

**ARCHITECTURAL ASSISTANTS** required by the Architect's Department of a major Building Company based upon Liverpool. The successful applicants will join the group responsible for the design and development of multi-storey offices and flats, housing, shops and industrial buildings and should be of Intermediate R.I.B.A. standard. Applications with full particulars and salary desired to Box 5701.

**ARCHITECTURAL ASSISTANT** required for a busy practice. Good detail draughtsman with sound all-round knowledge in the architectural field and must be capable of working with minimum supervision. Opportunities for first-class experience, including visits to sites and general supervision. Apply MAYFAIR 3567. 5689

**MESSRS. Bracewell, Harrison and Cotton**, Chartered Architects, require SENIOR ASSISTANT for their Tillicoultry, Scotland Office. The successful applicant will have every opportunity for advancement. Four apartment house is available. Reply to 36, Walker Terrace, Tillicoultry. 5710

**W. H. WATKINS, GRAY & PARTNERS** require ASSISTANTS of Intermediate standard for interesting hospital work, salaries according to experience and capabilities, pension scheme in operation. Write or phone: 57, Catherine Place, S.W.1—VICTORIA 7761. 5746

**ARCHITECTURAL ASSISTANTS** required in London Office, with varied and interesting practice. Good working conditions. Intermediate standard. Box 5582.

**VACANCIES** for all grades on varied and interesting work, good salary in accordance with experience. Fitzroy Robinson & Partners, CHANCERY 7751. Ref. GWJ 5744

**KEEN** and energetic ASSISTANT of about Intermediate/Final standard required for busy private office. Write or phone W. P. P. Grant, 565, London Road, North Chesham, Surrey. Telephone No. DERWENT 0512. Salary by arrangement. 5745

**MANCHESTER PRACTICE** requires ASSISTANTS, with some office experience, for work on various projects, mainly contemporary. Able to carry schemes through from sketch design stage with supervision as required. Medium-sized office with congenial atmosphere, offering all-round experience to enthusiastic types with good salaries to suitable applicants. Brief details (in confidence) to Box 5738.

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